Electronic Supplementary Material (ESI) for Catalysis Science & Technology.

Enlarging the tools for efficient enzymatic polycondensation: structural and catalytic features of cutinase 1 from *Thermobifida cellulosilytica*.

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Table 1s. Water content determination of the various enzymatic preparations after drying.

Enzymatic preparation	Drying method	Water content (%)*
Novozym 435®	Air-drying	0.01
iCaLB	Air-drying	0.03
iThc_cut1	Air-drying	0.03

* All determinations were conducted in duplicates.

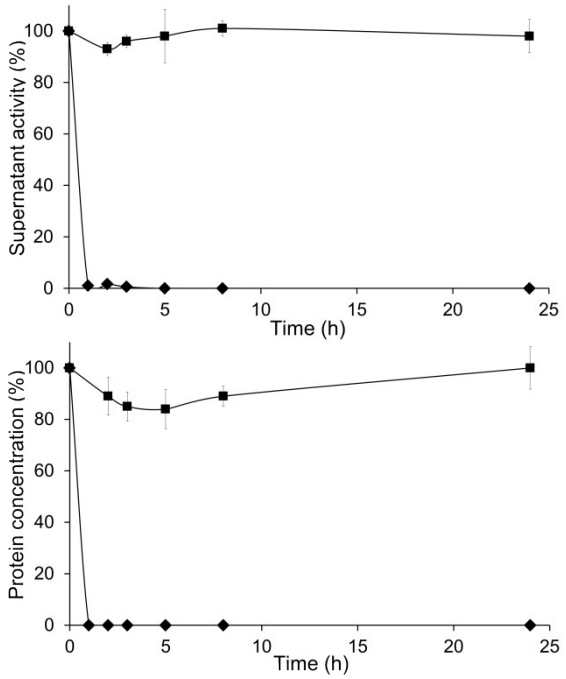

Fig S1. Progress of adsorption of Thc_cut1 on EC-EP (diamonds) and EC-HFA (squares) epoxy-activated beads. Top: supernatant activity; bottom: protein concentration. The EC-HFA resin contains an additional spacer inserted through a di-amino functionality, which decreases the hydrophobic character of the resin. Notably, the loading obtained with EC-HFA were unacceptably low even after prolonged incubation (less than 2% for Thc_cut1, 13% and 24% for HiC and CaLB respectively).

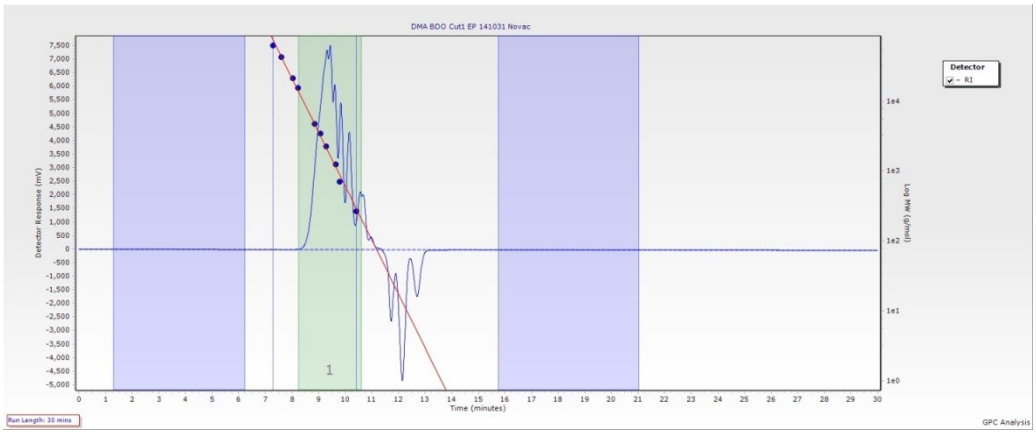

Fig S2. GPC chromatogram of the polycondensation products of DMA with BDO catalyzed by 10% w/w iThc_cut1 at 24 h and 100 kPa.

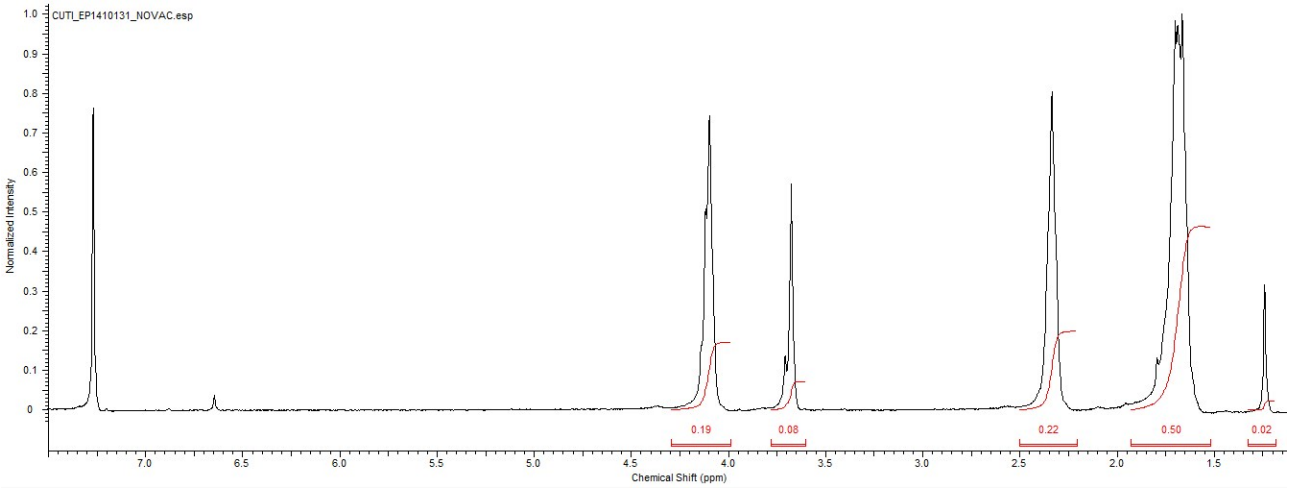

Fig S3. ^{1}H-NMR spectrum of the polycondensation products of DMA with BDO catalyzed by 10% w/w iThc_cut1 at 24 h and 100 kPa.

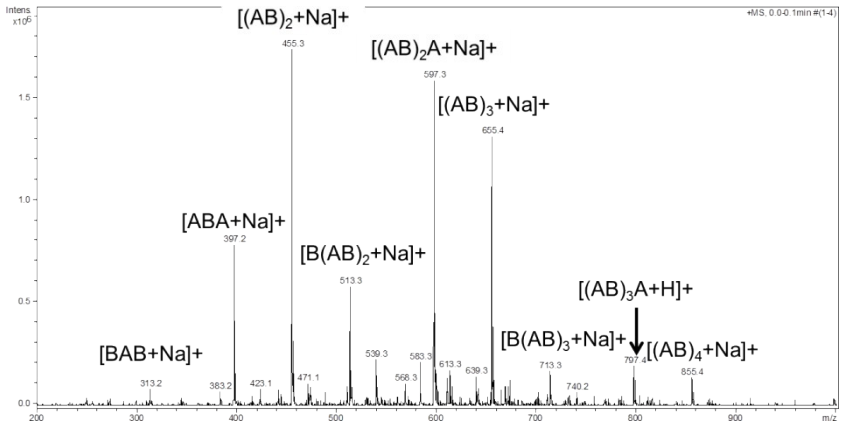

Fig S4. ESI-MS positive ion mass spectrum of the polycondensation products of DMA with BDO catalyzed by 10% w/w iThc_cut1 at 24 h and 100 kPa.

Table S2. ESI-MS mass assignment with counter ion calculation.

Oligomer	Calculated mass	(M+H)+	(M+K)+	(M+Na)+	Detected mass	Mass + Ion
BAB	290.2	291.2	329.1	313.2	313.2	(M+Na)+
ABA	374.2	375.2	413.2	397.2	397.2	(M+Na)+
$(AB)_2$	432.2	433.2	471.2	455.2	455.3	(M+Na)+
$B(AB)_2$	490.3	491.3	529.2	513.3	513.3	(M+Na)+
$(AB)_2A$	574.3	575.3	613.3	597.3	597.3	(M+Na)+
$(AB)_3$	632.3	633.3	671.3	655.3	655.4	(M+Na)+
$B(AB)_3$	690.4	691.4	729.3	713.4	713.3	(M+Na)+
$(AB)_3A$	796.4	797.4	835.4	819.4	797.4	(M+H)+
$(AB)_4$	832.4	833.4	871.4	855.4	855.4	(M+Na)+

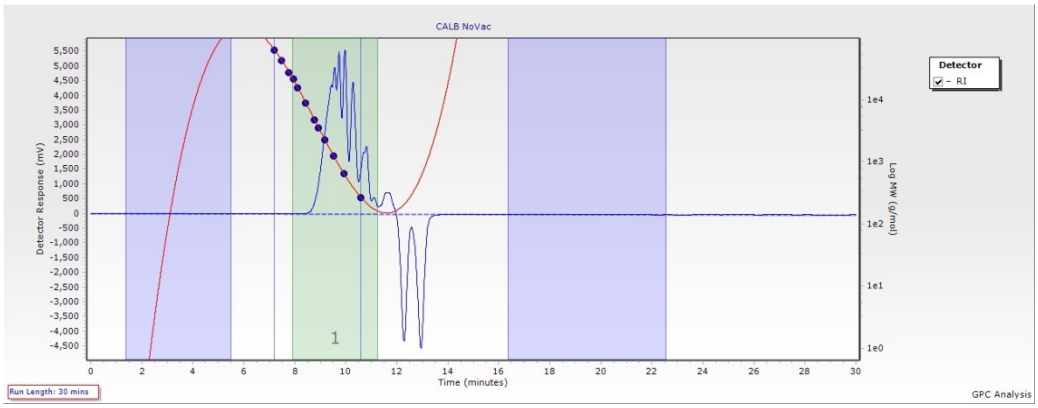

Fig S5. GPC chromatogram of the polycondensation products of DMA with BDO catalyzed by 10% w/w Novozym 435® at 24 h and 100 kPa.

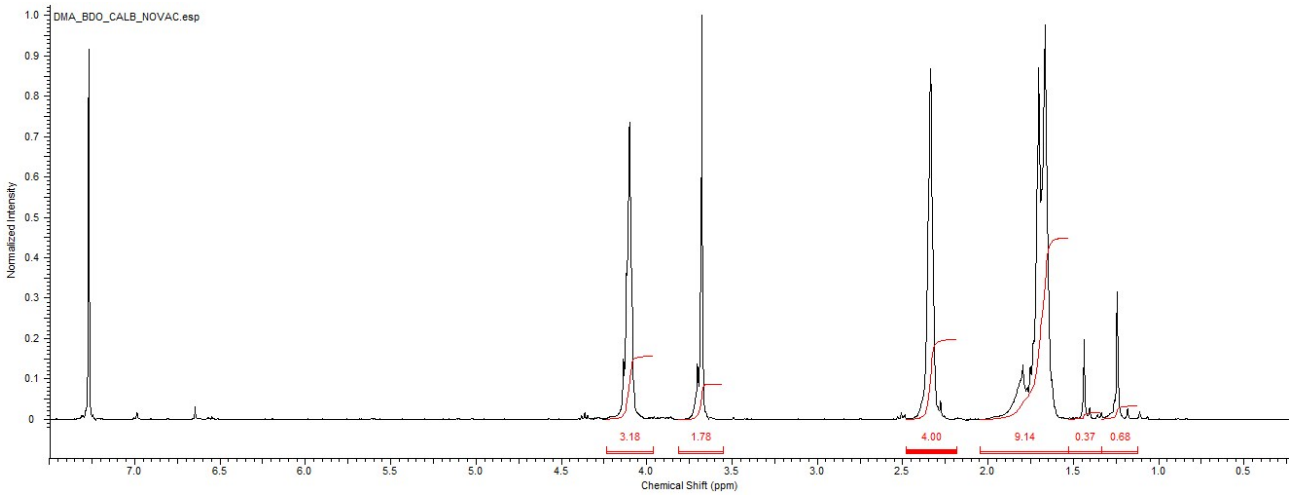

Fig S6. ^{1}H-NMR spectrum of the polycondensation products of DMA with BDO catalyzed by 10% w/w Novozym 435® at 24 h and 100 kPa.

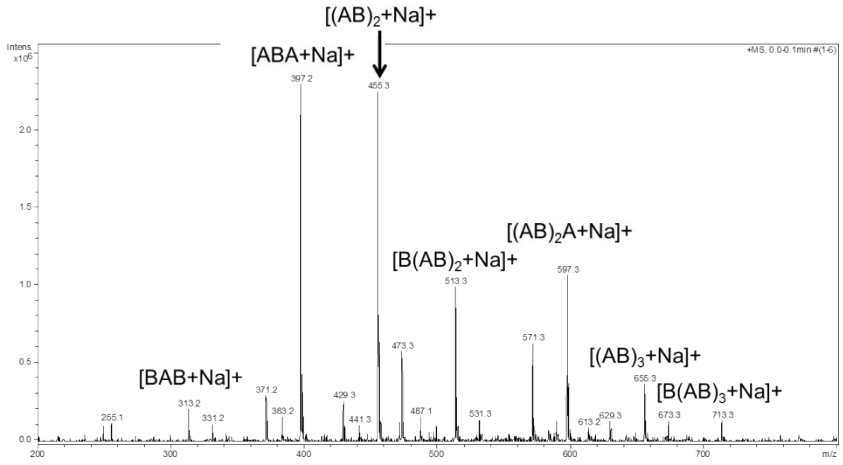

Fig S7. ESI-MS positive ion mass spectrum of the polycondensation products of DMA with BDO catalyzed by 10% w/w Novozym 435® at 24 h and 100 kPa.

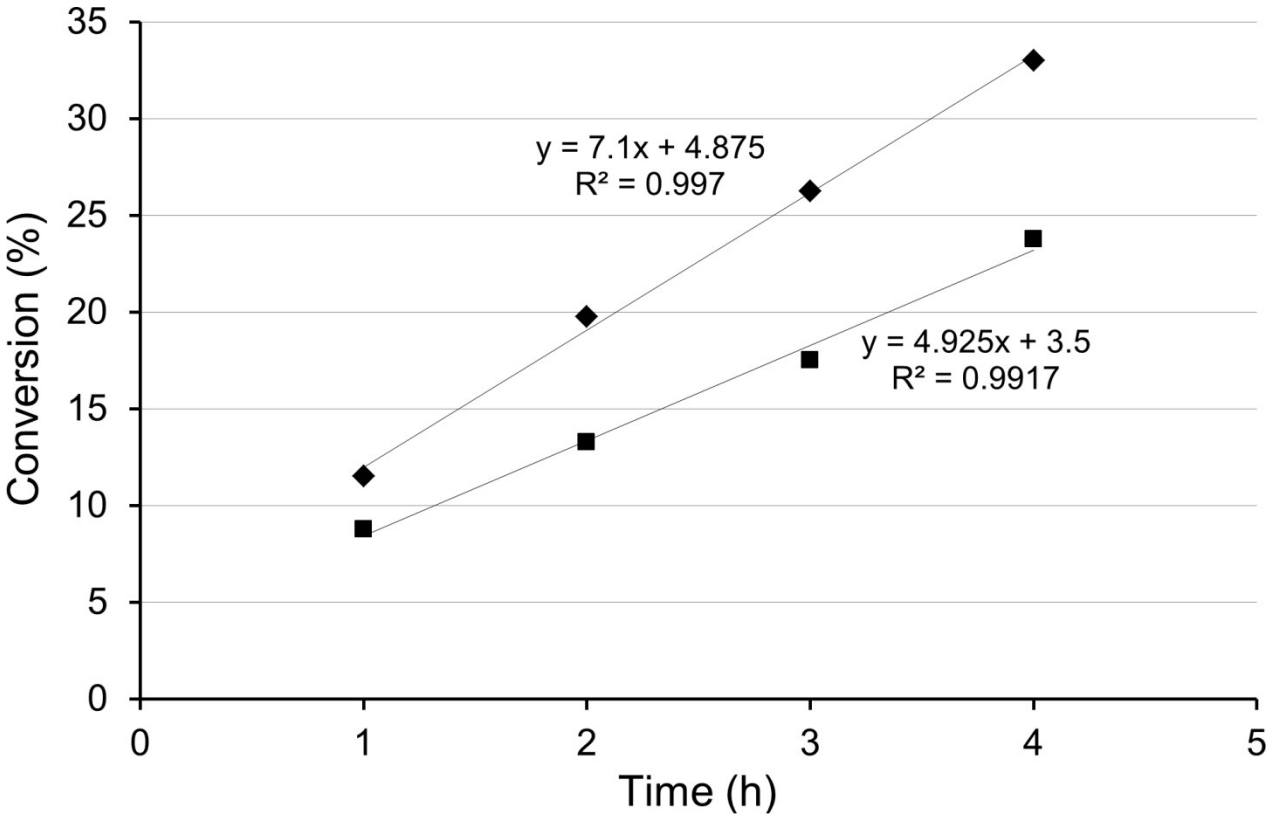

Fig S8. Monomer conversion (extrapolated from ^{1}H-NMR) obtained using a covalent immobilized preparation of Thc_cut1 and evaluated at different reaction times during the first synthetic cycle (black diamonds) and during the 10th cycle (black squares).

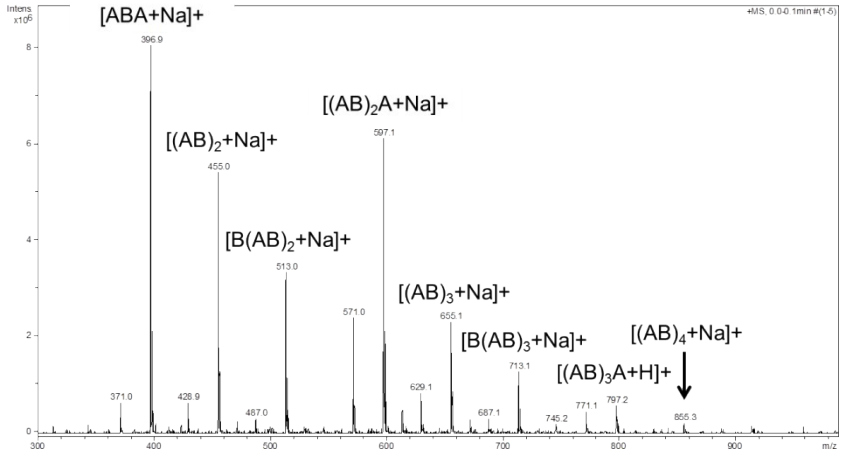

Fig S9. ESI-MS positive ion mass spectrum of the polycondensation products of DMA with BDO catalyzed by 10% w/w iThc_cut1 at 24 h and 100 kPa using magnetic stirring.

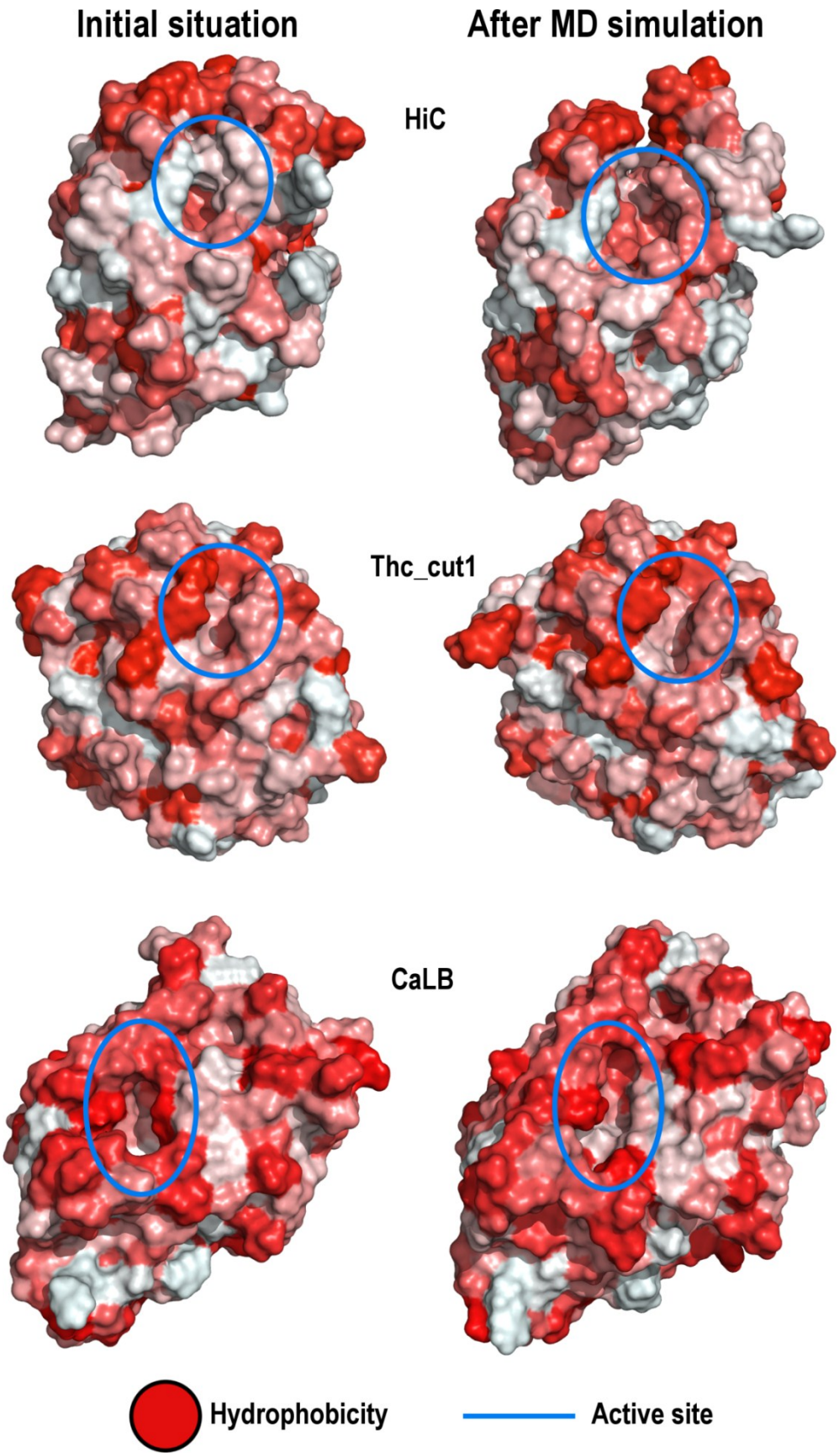

Fig S10. Comparison of the structures and their hydrophobic surfaces of HiC, Thc_cut1 and CaLB. The crystal structures of HiC and CaLB as well as the homology model of Thc_cut1 are on the left. The structures equilibrated after 10 ns MD simulations in explicit toluene at 343 K are on the right. The degree of hydrophobicity is represented in red and the openings of the active sites are highlighted within cyan circles. The extent of the superficial hydrophobicity of the three enzymes was calculated and represented by using the color_h script of the PyMOL software.

Structure Thc_cut1. Structure file in pdb format of the 3D structure of Thc_cut1 obtained by homology modeling.

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JRNL        AUTH   M.BIASINI,S.BIENERT,A.WATERHOUSE,K.ARNOLD,G.STUDER,
JRNL        AUTH 2 T.SCHMIDT,F.KIEFER,T.GALLO CASSARINO,M.BERTONI,L.BORDOLI,
JRNL        AUTH 3 T.SCHWEDE
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ATOM     96  C   ALA A  14      39.741  34.076  -2.296  1.00  0.85           C
ATOM     97  O   ALA A  14      40.578  34.674  -2.971  1.00  0.85           O
ATOM     98  CB  ALA A  14      37.704  32.939  -3.224  1.00  0.85           C
ATOM     99  N   LEU A  15      39.436  34.406  -1.043  1.00  0.82           N
ATOM    100  CA  LEU A  15      39.937  35.636  -0.394  1.00  0.82           C
ATOM    101  C   LEU A  15      41.455  35.621  -0.192  1.00  0.82           C
ATOM    102  O   LEU A  15      42.116  36.641  -0.378  1.00  0.82           O
ATOM    103  CB  LEU A  15      39.239  35.870   0.950  1.00  0.82           C
ATOM    104  CG  LEU A  15      37.733  36.130   0.805  1.00  0.82           C
ATOM    105  CD1 LEU A  15      37.094  36.240   2.189  1.00  0.82           C
ATOM    106  CD2 LEU A  15      37.435  37.382  -0.026  1.00  0.82           C
ATOM    107  N   LEU A  16      41.979  34.433   0.079  1.00  0.85           N
ATOM    108  CA  LEU A  16      43.421  34.216   0.289  1.00  0.85           C
ATOM    109  C   LEU A  16      44.254  34.155  -0.996  1.00  0.85           C
ATOM    110  O   LEU A  16      45.443  34.465  -0.992  1.00  0.85           O
ATOM    111  CB  LEU A  16      43.633  32.954   1.126  1.00  0.85           C
ATOM    112  CG  LEU A  16      43.299  33.186   2.602  1.00  0.85           C
ATOM    113  CD1 LEU A  16      43.368  31.865   3.363  1.00  0.85           C
ATOM    114  CD2 LEU A  16      44.284  34.176   3.225  1.00  0.85           C
ATOM    115  N   GLU A  17      43.621  33.682  -2.063  1.00  0.76           N
ATOM    116  CA  GLU A  17      44.278  33.517  -3.373  1.00  0.76           C
ATOM    117  C   GLU A  17      44.275  34.794  -4.225  1.00  0.76           C
ATOM    118  O   GLU A  17      45.057  34.903  -5.167  1.00  0.76           O
ATOM    119  CB  GLU A  17      43.619  32.374  -4.142  1.00  0.76           C
ATOM    120  CG  GLU A  17      43.782  31.042  -3.402  1.00  0.76           C
ATOM    121  CD  GLU A  17      42.940  29.907  -3.989  1.00  0.76           C
ATOM    122  OE1 GLU A  17      42.044  30.180  -4.821  1.00  0.76           O
ATOM    123  OE2 GLU A  17      43.209  28.756  -3.582  1.00  0.76           O1-
ATOM    124  N   ALA A  18      43.348  35.706  -3.915  1.00  0.81           N
ATOM    125  CA  ALA A  18      43.213  36.995  -4.613  1.00  0.81           C
ATOM    126  C   ALA A  18      44.520  37.795  -4.546  1.00  0.81           C
ATOM    127  O   ALA A  18      45.275  37.699  -3.579  1.00  0.81           O
ATOM    128  CB  ALA A  18      42.081  37.801  -3.968  1.00  0.81           C
ATOM    129  N   SER A  19      44.726  38.634  -5.551  1.00  0.81           N
ATOM    130  CA  SER A  19      45.932  39.492  -5.640  1.00  0.81           C
ATOM    131  C   SER A  19      46.066  40.419  -4.417  1.00  0.81           C
ATOM    132  O   SER A  19      47.165  40.761  -3.982  1.00  0.81           O
ATOM    133  CB  SER A  19      45.875  40.330  -6.921  1.00  0.81           C
ATOM    134  OG  SER A  19      47.051  41.134  -7.045  1.00  0.81           O
ATOM    135  N   SER A  20      44.920  40.890  -3.933  1.00  0.87           N
ATOM    136  CA  SER A  20      44.858  41.801  -2.778  1.00  0.87           C
ATOM    137  C   SER A  20      43.888  41.282  -1.721  1.00  0.87           C
ATOM    138  O   SER A  20      42.821  40.751  -2.041  1.00  0.87           O
ATOM    139  CB  SER A  20      44.402  43.187  -3.238  1.00  0.87           C
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ATOM    140  OG  SER A  20      45.327  43.680  -4.214  1.00  0.87           O
ATOM    141  N   GLY A  21      44.327  41.433  -0.472  1.00  0.92           N
ATOM    142  CA  GLY A  21      43.480  41.196   0.698  1.00  0.92           C
ATOM    143  C   GLY A  21      42.449  42.323   0.898  1.00  0.92           C
ATOM    144  O   GLY A  21      42.430  43.298   0.155  1.00  0.92           O
ATOM    145  N   PRO A  22      41.597  42.165   1.932  1.00  0.90           N
ATOM    146  CA  PRO A  22      40.515  43.114   2.240  1.00  0.90           C
ATOM    147  C   PRO A  22      40.941  44.478   2.816  1.00  0.90           C
ATOM    148  O   PRO A  22      40.117  45.382   2.908  1.00  0.90           O
ATOM    149  CB  PRO A  22      39.615  42.343   3.208  1.00  0.90           C
ATOM    150  CG  PRO A  22      40.602  41.464   3.973  1.00  0.90           C
ATOM    151  CD  PRO A  22      41.598  41.045   2.894  1.00  0.90           C
ATOM    152  N   PHE A  23      42.186  44.586   3.288  1.00  0.86           N
ATOM    153  CA  PHE A  23      42.701  45.839   3.869  1.00  0.86           C
ATOM    154  C   PHE A  23      43.362  46.713   2.800  1.00  0.86           C
ATOM    155  O   PHE A  23      44.233  46.269   2.056  1.00  0.86           O
ATOM    156  CB  PHE A  23      43.737  45.551   4.962  1.00  0.86           C
ATOM    157  CG  PHE A  23      43.110  44.928   6.206  1.00  0.86           C
ATOM    158  CD1 PHE A  23      42.846  43.564   6.243  1.00  0.86           C
ATOM    159  CD2 PHE A  23      42.860  45.720   7.320  1.00  0.86           C
ATOM    160  CE1 PHE A  23      42.323  42.993   7.395  1.00  0.86           C
ATOM    161  CE2 PHE A  23      42.342  45.148   8.474  1.00  0.86           C
ATOM    162  CZ  PHE A  23      42.072  43.785   8.508  1.00  0.86           C
ATOM    163  N   SER A  24      42.919  47.967   2.757  1.00  0.85           N
ATOM    164  CA  SER A  24      43.619  49.006   1.975  1.00  0.85           C
ATOM    165  C   SER A  24      44.959  49.314   2.663  1.00  0.85           C
ATOM    166  O   SER A  24      45.061  49.351   3.887  1.00  0.85           O
ATOM    167  CB  SER A  24      42.763  50.270   1.848  1.00  0.85           C
ATOM    168  OG  SER A  24      42.408  50.771   3.140  1.00  0.85           O
ATOM    169  N   VAL A  25      45.980  49.508   1.833  1.00  0.86           N
ATOM    170  CA  VAL A  25      47.374  49.607   2.310  1.00  0.86           C
ATOM    171  C   VAL A  25      47.967  50.977   1.948  1.00  0.86           C
ATOM    172  O   VAL A  25      47.709  51.524   0.880  1.00  0.86           O
ATOM    173  CB  VAL A  25      48.215  48.459   1.703  1.00  0.86           C
ATOM    174  CG1 VAL A  25      49.694  48.494   2.103  1.00  0.86           C
ATOM    175  CG2 VAL A  25      47.668  47.100   2.135  1.00  0.86           C
ATOM    176  N   SER A  26      48.780  51.464   2.880  1.00  0.84           N
ATOM    177  CA  SER A  26      49.651  52.633   2.662  1.00  0.84           C
ATOM    178  C   SER A  26      51.113  52.241   2.931  1.00  0.84           C
ATOM    179  O   SER A  26      51.404  51.200   3.512  1.00  0.84           O
ATOM    180  CB  SER A  26      49.230  53.788   3.570  1.00  0.84           C
ATOM    181  OG  SER A  26      49.964  54.959   3.197  1.00  0.84           O
ATOM    182  N   GLU A  27      52.013  53.068   2.398  1.00  0.84           N
ATOM    183  CA  GLU A  27      53.462  52.824   2.482  1.00  0.84           C
ATOM    184  C   GLU A  27      54.199  53.964   3.193  1.00  0.84           C
ATOM    185  O   GLU A  27      53.852  55.133   3.075  1.00  0.84           O
ATOM    186  CB  GLU A  27      54.035  52.704   1.072  1.00  0.84           C
ATOM    187  CG  GLU A  27      53.451  51.532   0.279  1.00  0.84           C
ATOM    188  CD  GLU A  27      53.977  51.503  -1.160  1.00  0.84           C
ATOM    189  OE1 GLU A  27      55.103  51.995  -1.394  1.00  0.84           O
ATOM    190  OE2 GLU A  27      53.238  50.962  -2.010  1.00  0.84           O1-
ATOM    191  N   GLU A  28      55.259  53.563   3.889  1.00  0.83           N
ATOM    192  CA  GLU A  28      56.238  54.486   4.480  1.00  0.83           C
ATOM    193  C   GLU A  28      57.651  54.018   4.118  1.00  0.83           C
ATOM    194  O   GLU A  28      58.066  52.919   4.482  1.00  0.83           O
ATOM    195  CB  GLU A  28      56.050  54.546   5.996  1.00  0.83           C
ATOM    196  CG  GLU A  28      57.090  55.452   6.666  1.00  0.83           C
ATOM    197  CD  GLU A  28      56.711  55.717   8.116  1.00  0.83           C
ATOM    198  OE1 GLU A  28      55.550  56.137   8.299  1.00  0.83           O
ATOM    199  OE2 GLU A  28      57.599  55.601   8.990  1.00  0.83           O1-
ATOM    200  N   ASN A  29      58.331  54.867   3.356  1.00  0.86           N
ATOM    201  CA  ASN A  29      59.726  54.605   2.963  1.00  0.86           C
ATOM    202  C   ASN A  29      60.661  54.734   4.175  1.00  0.86           C
ATOM    203  O   ASN A  29      60.528  55.636   4.994  1.00  0.86           O
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ATOM    204  CB  ASN A  29      60.138  55.582   1.857  1.00  0.86           C
ATOM    205  CG  ASN A  29      61.567  55.321   1.371  1.00  0.86           C
ATOM    206  ND2 ASN A  29      62.441  56.275   1.602  1.00  0.86           N
ATOM    207  OD1 ASN A  29      61.916  54.255   0.889  1.00  0.86           O
ATOM    208  N   VAL A  30      61.624  53.817   4.215  1.00  0.85           N
ATOM    209  CA  VAL A  30      62.724  53.857   5.193  1.00  0.85           C
ATOM    210  C   VAL A  30      64.020  54.009   4.390  1.00  0.85           C
ATOM    211  O   VAL A  30      64.457  53.083   3.715  1.00  0.85           O
ATOM    212  CB  VAL A  30      62.768  52.585   6.063  1.00  0.85           C
ATOM    213  CG1 VAL A  30      63.893  52.651   7.102  1.00  0.85           C
ATOM    214  CG2 VAL A  30      61.444  52.371   6.794  1.00  0.85           C
ATOM    215  N   SER A  31      64.546  55.230   4.411  1.00  0.80           N
ATOM    216  CA  SER A  31      65.822  55.528   3.730  1.00  0.80           C
ATOM    217  C   SER A  31      66.969  54.770   4.415  1.00  0.80           C
ATOM    218  O   SER A  31      66.894  54.414   5.592  1.00  0.80           O
ATOM    219  CB  SER A  31      66.104  57.036   3.731  1.00  0.80           C
ATOM    220  OG  SER A  31      66.361  57.486   5.062  1.00  0.80           O
ATOM    221  N   ARG A  32      68.056  54.609   3.668  1.00  0.69           N
ATOM    222  CA  ARG A  32      69.292  54.000   4.200  1.00  0.69           C
ATOM    223  C   ARG A  32      69.871  54.847   5.347  1.00  0.69           C
ATOM    224  O   ARG A  32      70.375  54.302   6.330  1.00  0.69           O
ATOM    225  CB  ARG A  32      70.282  53.843   3.045  1.00  0.69           C
ATOM    226  CG  ARG A  32      71.567  53.133   3.472  1.00  0.69           C
ATOM    227  CD  ARG A  32      72.444  52.841   2.256  1.00  0.69           C
ATOM    228  NE  ARG A  32      71.909  51.682   1.513  1.00  0.69           N
ATOM    229  CZ  ARG A  32      72.277  50.414   1.700  1.00  0.69           C
ATOM    230  NH1 ARG A  32      73.158  50.097   2.637  1.00  0.69           N1+
ATOM    231  NH2 ARG A  32      71.801  49.445   0.927  1.00  0.69           N
ATOM    232  N   LEU A  33      69.653  56.154   5.260  1.00  0.62           N
ATOM    233  CA  LEU A  33      70.000  57.114   6.323  1.00  0.62           C
ATOM    234  C   LEU A  33      69.261  56.805   7.636  1.00  0.62           C
ATOM    235  O   LEU A  33      69.871  56.792   8.703  1.00  0.62           O
ATOM    236  CB  LEU A  33      69.680  58.542   5.859  1.00  0.62           C
ATOM    237  CG  LEU A  33      69.880  59.597   6.959  1.00  0.62           C
ATOM    238  CD1 LEU A  33      71.342  59.688   7.409  1.00  0.62           C
ATOM    239  CD2 LEU A  33      69.358  60.956   6.496  1.00  0.62           C
ATOM    240  N   SER A  34      67.951  56.610   7.525  1.00  0.74           N
ATOM    241  CA  SER A  34      67.073  56.388   8.693  1.00  0.74           C
ATOM    242  C   SER A  34      67.304  55.020   9.345  1.00  0.74           C
ATOM    243  O   SER A  34      67.208  54.874  10.562  1.00  0.74           O
ATOM    244  CB  SER A  34      65.600  56.517   8.301  1.00  0.74           C
ATOM    245  OG  SER A  34      65.345  57.828   7.786  1.00  0.74           O
ATOM    246  N   ALA A  35      67.571  54.019   8.506  1.00  0.81           N
ATOM    247  CA  ALA A  35      67.803  52.642   8.966  1.00  0.81           C
ATOM    248  C   ALA A  35      69.135  52.513   9.714  1.00  0.81           C
ATOM    249  O   ALA A  35      70.181  52.979   9.267  1.00  0.81           O
ATOM    250  CB  ALA A  35      67.796  51.708   7.760  1.00  0.81           C
ATOM    251  N   SER A  36      69.049  51.861  10.865  1.00  0.80           N
ATOM    252  CA  SER A  36      70.224  51.531  11.693  1.00  0.80           C
ATOM    253  C   SER A  36      70.348  50.011  11.829  1.00  0.80           C
ATOM    254  O   SER A  36      69.451  49.356  12.359  1.00  0.80           O
ATOM    255  CB  SER A  36      70.117  52.165  13.083  1.00  0.80           C
ATOM    256  OG  SER A  36      71.280  51.821  13.843  1.00  0.80           O
ATOM    257  N   GLY A  37      71.344  49.484  11.108  1.00  0.87           N
ATOM    258  CA  GLY A  37      71.640  48.037  11.105  1.00  0.87           C
ATOM    259  C   GLY A  37      70.986  47.261   9.950  1.00  0.87           C
ATOM    260  O   GLY A  37      70.947  46.036   9.968  1.00  0.87           O
ATOM    261  N   PHE A  38      70.503  47.999   8.952  1.00  0.84           N
ATOM    262  CA  PHE A  38      69.993  47.448   7.681  1.00  0.84           C
ATOM    263  C   PHE A  38      69.995  48.568   6.624  1.00  0.84           C
ATOM    264  O   PHE A  38      70.241  49.724   6.954  1.00  0.84           O
ATOM    265  CB  PHE A  38      68.613  46.793   7.871  1.00  0.84           C
ATOM    266  CG  PHE A  38      67.482  47.759   8.226  1.00  0.84           C
ATOM    267  CD1 PHE A  38      67.366  48.282   9.510  1.00  0.84           C
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ATOM    268  CD2 PHE A  38      66.509  48.023   7.272  1.00  0.84           C
ATOM    269  CE1 PHE A  38      66.276  49.078   9.836  1.00  0.84           C
ATOM    270  CE2 PHE A  38      65.416  48.813   7.601  1.00  0.84           C
ATOM    271  CZ  PHE A  38      65.300  49.342   8.881  1.00  0.84           C
ATOM    272  N   GLY A  39      69.642  48.209   5.385  1.00  0.84           N
ATOM    273  CA  GLY A  39      69.796  49.134   4.239  1.00  0.84           C
ATOM    274  C   GLY A  39      68.513  49.883   3.851  1.00  0.84           C
ATOM    275  O   GLY A  39      68.386  50.356   2.720  1.00  0.84           O
ATOM    276  N   GLY A  40      67.611  50.035   4.827  1.00  0.89           N
ATOM    277  CA  GLY A  40      66.300  50.680   4.626  1.00  0.89           C
ATOM    278  C   GLY A  40      65.297  49.682   4.038  1.00  0.89           C
ATOM    279  O   GLY A  40      65.487  48.473   4.102  1.00  0.89           O
ATOM    280  N   GLY A  41      64.220  50.247   3.479  1.00  0.96           N
ATOM    281  CA  GLY A  41      63.171  49.447   2.830  1.00  0.96           C
ATOM    282  C   GLY A  41      61.851  50.219   2.763  1.00  0.96           C
ATOM    283  O   GLY A  41      61.822  51.440   2.706  1.00  0.96           O
ATOM    284  N   THR A  42      60.771  49.444   2.735  1.00  0.92           N
ATOM    285  CA  THR A  42      59.401  49.988   2.671  1.00  0.92           C
ATOM    286  C   THR A  42      58.548  49.279   3.729  1.00  0.92           C
ATOM    287  O   THR A  42      58.570  48.057   3.821  1.00  0.92           O
ATOM    288  CB  THR A  42      58.801  49.768   1.270  1.00  0.92           C
ATOM    289  CG2 THR A  42      57.405  50.383   1.118  1.00  0.92           C
ATOM    290  OG1 THR A  42      59.658  50.365   0.292  1.00  0.92           O
ATOM    291  N   ILE A  43      57.771  50.095   4.446  1.00  0.90           N
ATOM    292  CA  ILE A  43      56.803  49.599   5.438  1.00  0.90           C
ATOM    293  C   ILE A  43      55.397  49.742   4.833  1.00  0.90           C
ATOM    294  O   ILE A  43      54.932  50.839   4.562  1.00  0.90           O
ATOM    295  CB  ILE A  43      56.882  50.378   6.768  1.00  0.90           C
ATOM    296  CG1 ILE A  43      58.306  50.363   7.346  1.00  0.90           C
ATOM    297  CG2 ILE A  43      55.882  49.783   7.774  1.00  0.90           C
ATOM    298  CD1 ILE A  43      58.507  51.257   8.578  1.00  0.90           C
ATOM    299  N   TYR A  44      54.786  48.581   4.617  1.00  0.94           N
ATOM    300  CA  TYR A  44      53.386  48.477   4.184  1.00  0.94           C
ATOM    301  C   TYR A  44      52.531  48.226   5.432  1.00  0.94           C
ATOM    302  O   TYR A  44      52.873  47.408   6.277  1.00  0.94           O
ATOM    303  CB  TYR A  44      53.232  47.285   3.239  1.00  0.94           C
ATOM    304  CG  TYR A  44      54.094  47.404   1.986  1.00  0.94           C
ATOM    305  CD1 TYR A  44      53.570  47.988   0.843  1.00  0.94           C
ATOM    306  CD2 TYR A  44      55.381  46.884   1.989  1.00  0.94           C
ATOM    307  CE1 TYR A  44      54.337  48.052  -0.313  1.00  0.94           C
ATOM    308  CE2 TYR A  44      56.149  46.948   0.836  1.00  0.94           C
ATOM    309  CZ  TYR A  44      55.624  47.527  -0.313  1.00  0.94           C
ATOM    310  OH  TYR A  44      56.370  47.566  -1.445  1.00  0.94           O
ATOM    311  N   TYR A  45      51.484  49.038   5.557  1.00  0.90           N
ATOM    312  CA  TYR A  45      50.578  48.946   6.712  1.00  0.90           C
ATOM    313  C   TYR A  45      49.120  49.254   6.320  1.00  0.90           C
ATOM    314  O   TYR A  45      48.884  50.007   5.381  1.00  0.90           O
ATOM    315  CB  TYR A  45      51.060  49.853   7.851  1.00  0.90           C
ATOM    316  CG  TYR A  45      51.068  51.330   7.469  1.00  0.90           C
ATOM    317  CD1 TYR A  45      52.193  51.882   6.877  1.00  0.90           C
ATOM    318  CD2 TYR A  45      49.960  52.118   7.747  1.00  0.90           C
ATOM    319  CE1 TYR A  45      52.214  53.235   6.574  1.00  0.90           C
ATOM    320  CE2 TYR A  45      49.978  53.470   7.451  1.00  0.90           C
ATOM    321  CZ  TYR A  45      51.108  54.025   6.863  1.00  0.90           C
ATOM    322  OH  TYR A  45      51.126  55.348   6.559  1.00  0.90           O
ATOM    323  N   PRO A  46      48.166  48.625   7.044  1.00  0.89           N
ATOM    324  CA  PRO A  46      46.726  48.846   6.826  1.00  0.89           C
ATOM    325  C   PRO A  46      46.376  50.310   7.098  1.00  0.89           C
ATOM    326  O   PRO A  46      46.796  50.886   8.099  1.00  0.89           O
ATOM    327  CB  PRO A  46      46.045  47.957   7.871  1.00  0.89           C
ATOM    328  CG  PRO A  46      47.051  46.833   8.101  1.00  0.89           C
ATOM    329  CD  PRO A  46      48.389  47.562   8.034  1.00  0.89           C
ATOM    330  N   ARG A  47      45.567  50.887   6.215  1.00  0.71           N
ATOM    331  CA  ARG A  47      45.042  52.255   6.416  1.00  0.71           C
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ATOM    332  C   ARG A  47      44.131  52.337   7.647  1.00  0.71           C
ATOM    333  O   ARG A  47      44.153  53.320   8.388  1.00  0.71           O
ATOM    334  CB  ARG A  47      44.243  52.740   5.206  1.00  0.71           C
ATOM    335  CG  ARG A  47      45.137  53.056   4.011  1.00  0.71           C
ATOM    336  CD  ARG A  47      44.279  53.617   2.876  1.00  0.71           C
ATOM    337  NE  ARG A  47      45.143  54.086   1.781  1.00  0.71           N
ATOM    338  CZ  ARG A  47      45.748  55.275   1.709  1.00  0.71           C
ATOM    339  NH1 ARG A  47      45.604  56.190   2.662  1.00  0.71           N1+
ATOM    340  NH2 ARG A  47      46.520  55.559   0.671  1.00  0.71           N
ATOM    341  N   GLU A  48      43.350  51.279   7.850  1.00  0.65           N
ATOM    342  CA  GLU A  48      42.423  51.175   8.986  1.00  0.65           C
ATOM    343  C   GLU A  48      43.227  51.076  10.289  1.00  0.65           C
ATOM    344  O   GLU A  48      43.997  50.136  10.485  1.00  0.65           O
ATOM    345  CB  GLU A  48      41.506  49.964   8.800  1.00  0.65           C
ATOM    346  CG  GLU A  48      40.428  49.925   9.887  1.00  0.65           C
ATOM    347  CD  GLU A  48      39.377  48.859   9.587  1.00  0.65           C
ATOM    348  OE1 GLU A  48      38.421  49.216   8.862  1.00  0.65           O
ATOM    349  OE2 GLU A  48      39.550  47.725  10.077  1.00  0.65           O1-
ATOM    350  N   ASN A  49      43.013  52.072  11.141  1.00  0.60           N
ATOM    351  CA  ASN A  49      43.722  52.146  12.428  1.00  0.60           C
ATOM    352  C   ASN A  49      43.262  51.001  13.336  1.00  0.60           C
ATOM    353  O   ASN A  49      42.080  50.737  13.475  1.00  0.60           O
ATOM    354  CB  ASN A  49      43.470  53.480  13.134  1.00  0.60           C
ATOM    355  CG  ASN A  49      44.383  53.607  14.359  1.00  0.60           C
ATOM    356  ND2 ASN A  49      43.836  54.096  15.448  1.00  0.60           N
ATOM    357  OD1 ASN A  49      45.547  53.240  14.357  1.00  0.60           O
ATOM    358  N   ASN A  50      44.285  50.328  13.871  1.00  0.62           N
ATOM    359  CA  ASN A  50      44.153  49.197  14.802  1.00  0.62           C
ATOM    360  C   ASN A  50      45.594  48.746  15.106  1.00  0.62           C
ATOM    361  O   ASN A  50      46.543  49.256  14.532  1.00  0.62           O
ATOM    362  CB  ASN A  50      43.392  48.053  14.121  1.00  0.62           C
ATOM    363  CG  ASN A  50      42.595  47.200  15.106  1.00  0.62           C
ATOM    364  ND2 ASN A  50      41.496  46.666  14.627  1.00  0.62           N
ATOM    365  OD1 ASN A  50      42.913  47.062  16.281  1.00  0.62           O
ATOM    366  N   THR A  51      45.730  47.835  16.070  1.00  0.72           N
ATOM    367  CA  THR A  51      47.042  47.216  16.319  1.00  0.72           C
ATOM    368  C   THR A  51      47.111  45.866  15.596  1.00  0.72           C
ATOM    369  O   THR A  51      46.164  45.092  15.566  1.00  0.72           O
ATOM    370  CB  THR A  51      47.317  47.047  17.817  1.00  0.72           C
ATOM    371  CG2 THR A  51      47.451  48.410  18.506  1.00  0.72           C
ATOM    372  OG1 THR A  51      46.286  46.258  18.416  1.00  0.72           O
ATOM    373  N   TYR A  52      48.223  45.686  14.899  1.00  0.83           N
ATOM    374  CA  TYR A  52      48.473  44.489  14.081  1.00  0.83           C
ATOM    375  C   TYR A  52      49.839  43.912  14.455  1.00  0.83           C
ATOM    376  O   TYR A  52      50.683  44.604  15.033  1.00  0.83           O
ATOM    377  CB  TYR A  52      48.487  44.862  12.591  1.00  0.83           C
ATOM    378  CG  TYR A  52      47.207  45.566  12.127  1.00  0.83           C
ATOM    379  CD1 TYR A  52      46.105  44.826  11.724  1.00  0.83           C
ATOM    380  CD2 TYR A  52      47.175  46.953  12.050  1.00  0.83           C
ATOM    381  CE1 TYR A  52      44.975  45.469  11.236  1.00  0.83           C
ATOM    382  CE2 TYR A  52      46.046  47.601  11.569  1.00  0.83           C
ATOM    383  CZ  TYR A  52      44.947  46.856  11.156  1.00  0.83           C
ATOM    384  OH  TYR A  52      43.857  47.479  10.636  1.00  0.83           O
ATOM    385  N   GLY A  53      49.980  42.609  14.196  1.00  0.92           N
ATOM    386  CA  GLY A  53      51.307  41.971  14.214  1.00  0.92           C
ATOM    387  C   GLY A  53      52.201  42.621  13.144  1.00  0.92           C
ATOM    388  O   GLY A  53      51.727  43.145  12.140  1.00  0.92           O
ATOM    389  N   ALA A  54      53.504  42.617  13.427  1.00  0.98           N
ATOM    390  CA  ALA A  54      54.497  43.192  12.503  1.00  0.98           C
ATOM    391  C   ALA A  54      55.441  42.105  11.974  1.00  0.98           C
ATOM    392  O   ALA A  54      55.824  41.181  12.679  1.00  0.98           O
ATOM    393  CB  ALA A  54      55.295  44.293  13.200  1.00  0.98           C
ATOM    394  N   VAL A  55      55.778  42.252  10.692  1.00  0.96           N
ATOM    395  CA  VAL A  55      56.579  41.256   9.960  1.00  0.96           C
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ATOM    396  C   VAL A  55      57.736  41.975   9.241  1.00  0.96           C
ATOM    397  O   VAL A  55      57.551  43.004   8.597  1.00  0.96           O
ATOM    398  CB  VAL A  55      55.697  40.487   8.947  1.00  0.96           C
ATOM    399  CG1 VAL A  55      56.464  39.331   8.295  1.00  0.96           C
ATOM    400  CG2 VAL A  55      54.410  39.925   9.566  1.00  0.96           C
ATOM    401  N   ALA A  56      58.913  41.359   9.333  1.00  1.00           N
ATOM    402  CA  ALA A  56      60.097  41.805   8.577  1.00  1.00           C
ATOM    403  C   ALA A  56      60.495  40.721   7.568  1.00  1.00           C
ATOM    404  O   ALA A  56      60.573  39.541   7.892  1.00  1.00           O
ATOM    405  CB  ALA A  56      61.260  42.087   9.529  1.00  1.00           C
ATOM    406  N   ILE A  57      60.701  41.167   6.328  1.00  0.91           N
ATOM    407  CA  ILE A  57      61.056  40.260   5.223  1.00  0.91           C
ATOM    408  C   ILE A  57      62.405  40.707   4.641  1.00  0.91           C
ATOM    409  O   ILE A  57      62.603  41.869   4.298  1.00  0.91           O
ATOM    410  CB  ILE A  57      59.961  40.224   4.134  1.00  0.91           C
ATOM    411  CG1 ILE A  57      58.576  39.940   4.746  1.00  0.91           C
ATOM    412  CG2 ILE A  57      60.306  39.156   3.077  1.00  0.91           C
ATOM    413  CD1 ILE A  57      57.402  40.017   3.759  1.00  0.91           C
ATOM    414  N   SER A  58      63.261  39.703   4.459  1.00  0.93           N
ATOM    415  CA  SER A  58      64.588  39.901   3.857  1.00  0.93           C
ATOM    416  C   SER A  58      64.659  39.255   2.463  1.00  0.93           C
ATOM    417  O   SER A  58      64.154  38.151   2.263  1.00  0.93           O
ATOM    418  CB  SER A  58      65.679  39.302   4.750  1.00  0.93           C
ATOM    419  OG  SER A  58      66.967  39.493   4.159  1.00  0.93           O
ATOM    420  N   PRO A  59      65.266  39.968   1.498  1.00  0.89           N
ATOM    421  CA  PRO A  59      65.578  39.398   0.180  1.00  0.89           C
ATOM    422  C   PRO A  59      66.729  38.385   0.325  1.00  0.89           C
ATOM    423  O   PRO A  59      67.215  38.122   1.426  1.00  0.89           O
ATOM    424  CB  PRO A  59      65.962  40.623  -0.657  1.00  0.89           C
ATOM    425  CG  PRO A  59      66.619  41.557   0.357  1.00  0.89           C
ATOM    426  CD  PRO A  59      65.762  41.353   1.606  1.00  0.89           C
ATOM    427  N   GLY A  60      67.157  37.839  -0.814  1.00  0.86           N
ATOM    428  CA  GLY A  60      68.294  36.902  -0.845  1.00  0.86           C
ATOM    429  C   GLY A  60      69.557  37.586  -1.373  1.00  0.86           C
ATOM    430  O   GLY A  60      69.581  38.779  -1.668  1.00  0.86           O
ATOM    431  N   TYR A  61      70.573  36.749  -1.567  1.00  0.75           N
ATOM    432  CA  TYR A  61      71.871  37.159  -2.128  1.00  0.75           C
ATOM    433  C   TYR A  61      71.640  37.775  -3.510  1.00  0.75           C
ATOM    434  O   TYR A  61      70.888  37.187  -4.292  1.00  0.75           O
ATOM    435  CB  TYR A  61      72.727  35.898  -2.254  1.00  0.75           C
ATOM    436  CG  TYR A  61      74.187  36.201  -2.585  1.00  0.75           C
ATOM    437  CD1 TYR A  61      75.039  36.651  -1.584  1.00  0.75           C
ATOM    438  CD2 TYR A  61      74.698  35.857  -3.829  1.00  0.75           C
ATOM    439  CE1 TYR A  61      76.401  36.751  -1.825  1.00  0.75           C
ATOM    440  CE2 TYR A  61      76.060  35.962  -4.076  1.00  0.75           C
ATOM    441  CZ  TYR A  61      76.908  36.412  -3.073  1.00  0.75           C
ATOM    442  OH  TYR A  61      78.233  36.569  -3.320  1.00  0.75           O
ATOM    443  N   THR A  62      72.188  38.971  -3.690  1.00  0.70           N
ATOM    444  CA  THR A  62      72.068  39.854  -4.884  1.00  0.70           C
ATOM    445  C   THR A  62      70.679  40.507  -5.051  1.00  0.70           C
ATOM    446  O   THR A  62      70.470  41.300  -5.969  1.00  0.70           O
ATOM    447  CB  THR A  62      72.431  39.167  -6.219  1.00  0.70           C
ATOM    448  CG2 THR A  62      73.753  38.391  -6.146  1.00  0.70           C
ATOM    449  OG1 THR A  62      71.355  38.322  -6.643  1.00  0.70           O
ATOM    450  N   GLY A  63      69.788  40.256  -4.080  1.00  0.79           N
ATOM    451  CA  GLY A  63      68.390  40.709  -4.134  1.00  0.79           C
ATOM    452  C   GLY A  63      68.207  42.041  -3.397  1.00  0.79           C
ATOM    453  O   GLY A  63      68.906  42.364  -2.444  1.00  0.79           O
ATOM    454  N   THR A  64      67.245  42.795  -3.915  1.00  0.80           N
ATOM    455  CA  THR A  64      66.817  44.076  -3.316  1.00  0.80           C
ATOM    456  C   THR A  64      65.366  43.914  -2.836  1.00  0.80           C
ATOM    457  O   THR A  64      64.696  42.953  -3.194  1.00  0.80           O
ATOM    458  CB  THR A  64      66.911  45.222  -4.339  1.00  0.80           C
ATOM    459  CG2 THR A  64      68.336  45.394  -4.883  1.00  0.80           C
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ATOM    460  OG1 THR A  64      65.967  45.019  -5.398  1.00  0.80           O
ATOM    461  N   GLU A  65      64.832  44.923  -2.161  1.00  0.83           N
ATOM    462  CA  GLU A  65      63.435  44.884  -1.676  1.00  0.83           C
ATOM    463  C   GLU A  65      62.404  44.728  -2.808  1.00  0.83           C
ATOM    464  O   GLU A  65      61.358  44.106  -2.614  1.00  0.83           O
ATOM    465  CB  GLU A  65      63.105  46.110  -0.822  1.00  0.83           C
ATOM    466  CG  GLU A  65      63.089  47.424  -1.614  1.00  0.83           C
ATOM    467  CD  GLU A  65      62.463  48.563  -0.807  1.00  0.83           C
ATOM    468  OE1 GLU A  65      61.566  48.275   0.014  1.00  0.83           O
ATOM    469  OE2 GLU A  65      62.936  49.700  -1.006  1.00  0.83           O1-
ATOM    470  N   ALA A  66      62.757  45.195  -4.003  1.00  0.85           N
ATOM    471  CA  ALA A  66      61.925  45.058  -5.214  1.00  0.85           C
ATOM    472  C   ALA A  66      61.565  43.593  -5.518  1.00  0.85           C
ATOM    473  O   ALA A  66      60.430  43.311  -5.898  1.00  0.85           O
ATOM    474  CB  ALA A  66      62.650  45.665  -6.417  1.00  0.85           C
ATOM    475  N   SER A  67      62.466  42.673  -5.168  1.00  0.85           N
ATOM    476  CA  SER A  67      62.250  41.225  -5.378  1.00  0.85           C
ATOM    477  C   SER A  67      61.197  40.604  -4.439  1.00  0.85           C
ATOM    478  O   SER A  67      60.725  39.497  -4.672  1.00  0.85           O
ATOM    479  CB  SER A  67      63.563  40.440  -5.277  1.00  0.85           C
ATOM    480  OG  SER A  67      64.051  40.424  -3.934  1.00  0.85           O
ATOM    481  N   ILE A  68      60.909  41.298  -3.334  1.00  0.86           N
ATOM    482  CA  ILE A  68      59.955  40.828  -2.306  1.00  0.86           C
ATOM    483  C   ILE A  68      58.799  41.816  -2.035  1.00  0.86           C
ATOM    484  O   ILE A  68      57.927  41.546  -1.214  1.00  0.86           O
ATOM    485  CB  ILE A  68      60.697  40.504  -0.993  1.00  0.86           C
ATOM    486  CG1 ILE A  68      61.456  41.739  -0.469  1.00  0.86           C
ATOM    487  CG2 ILE A  68      61.593  39.269  -1.184  1.00  0.86           C
ATOM    488  CD1 ILE A  68      62.068  41.596   0.925  1.00  0.86           C
ATOM    489  N   ALA A  69      58.736  42.880  -2.842  1.00  0.88           N
ATOM    490  CA  ALA A  69      57.752  43.967  -2.672  1.00  0.88           C
ATOM    491  C   ALA A  69      56.298  43.490  -2.787  1.00  0.88           C
ATOM    492  O   ALA A  69      55.474  43.816  -1.926  1.00  0.88           O
ATOM    493  CB  ALA A  69      58.018  45.068  -3.701  1.00  0.88           C
ATOM    494  N   TRP A  70      56.065  42.541  -3.695  1.00  0.83           N
ATOM    495  CA  TRP A  70      54.709  42.002  -3.940  1.00  0.83           C
ATOM    496  C   TRP A  70      54.166  41.282  -2.697  1.00  0.83           C
ATOM    497  O   TRP A  70      52.994  41.426  -2.338  1.00  0.83           O
ATOM    498  CB  TRP A  70      54.698  41.048  -5.143  1.00  0.83           C
ATOM    499  CG  TRP A  70      55.278  39.657  -4.838  1.00  0.83           C
ATOM    500  CD1 TRP A  70      56.564  39.299  -4.950  1.00  0.83           C
ATOM    501  CD2 TRP A  70      54.595  38.575  -4.372  1.00  0.83           C
ATOM    502  CE2 TRP A  70      55.487  37.528  -4.215  1.00  0.83           C
ATOM    503  CE3 TRP A  70      53.226  38.337  -4.057  1.00  0.83           C
ATOM    504  NE1 TRP A  70      56.698  38.038  -4.587  1.00  0.83           N
ATOM    505  CZ2 TRP A  70      55.103  36.301  -3.797  1.00  0.83           C
ATOM    506  CZ3 TRP A  70      52.832  37.093  -3.645  1.00  0.83           C
ATOM    507  CH2 TRP A  70      53.741  36.052  -3.507  1.00  0.83           C
ATOM    508  N   LEU A  71      55.069  40.595  -2.009  1.00  0.88           N
ATOM    509  CA  LEU A  71      54.730  39.783  -0.835  1.00  0.88           C
ATOM    510  C   LEU A  71      54.488  40.649   0.405  1.00  0.88           C
ATOM    511  O   LEU A  71      53.514  40.423   1.126  1.00  0.88           O
ATOM    512  CB  LEU A  71      55.830  38.745  -0.596  1.00  0.88           C
ATOM    513  CG  LEU A  71      55.402  37.680   0.418  1.00  0.88           C
ATOM    514  CD1 LEU A  71      54.141  36.924  -0.023  1.00  0.88           C
ATOM    515  CD2 LEU A  71      56.547  36.695   0.608  1.00  0.88           C
ATOM    516  N   GLY A  72      55.272  41.726   0.511  1.00  1.00           N
ATOM    517  CA  GLY A  72      55.133  42.716   1.596  1.00  1.00           C
ATOM    518  C   GLY A  72      53.772  43.421   1.551  1.00  1.00           C
ATOM    519  O   GLY A  72      53.010  43.382   2.518  1.00  1.00           O
ATOM    520  N   GLU A  73      53.424  43.894   0.356  1.00  0.87           N
ATOM    521  CA  GLU A  73      52.127  44.551   0.121  1.00  0.87           C
ATOM    522  C   GLU A  73      50.933  43.590   0.274  1.00  0.87           C
ATOM    523  O   GLU A  73      49.933  43.954   0.888  1.00  0.87           O
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ATOM    524  CB  GLU A  73      52.134  45.209  -1.259  1.00  0.87           C
ATOM    525  CG  GLU A  73      50.812  45.928  -1.562  1.00  0.87           C
ATOM    526  CD  GLU A  73      50.827  46.729  -2.865  1.00  0.87           C
ATOM    527  OE1 GLU A  73      51.698  46.461  -3.724  1.00  0.87           O
ATOM    528  OE2 GLU A  73      49.985  47.648  -2.948  1.00  0.87           O1-
ATOM    529  N   ARG A  74      51.082  42.369  -0.239  1.00  0.85           N
ATOM    530  CA  ARG A  74      50.003  41.363  -0.192  1.00  0.85           C
ATOM    531  C   ARG A  74      49.706  40.931   1.253  1.00  0.85           C
ATOM    532  O   ARG A  74      48.554  40.848   1.670  1.00  0.85           O
ATOM    533  CB  ARG A  74      50.384  40.136  -1.020  1.00  0.85           C
ATOM    534  CG  ARG A  74      49.214  39.157  -1.127  1.00  0.85           C
ATOM    535  CD  ARG A  74      49.688  37.863  -1.776  1.00  0.85           C
ATOM    536  NE  ARG A  74      48.561  36.936  -1.957  1.00  0.85           N
ATOM    537  CZ  ARG A  74      48.136  36.455  -3.126  1.00  0.85           C
ATOM    538  NH1 ARG A  74      48.684  36.839  -4.273  1.00  0.85           N1+
ATOM    539  NH2 ARG A  74      47.208  35.512  -3.154  1.00  0.85           N
ATOM    540  N   ILE A  75      50.751  40.703   2.032  1.00  0.93           N
ATOM    541  CA  ILE A  75      50.581  40.309   3.446  1.00  0.93           C
ATOM    542  C   ILE A  75      49.955  41.460   4.254  1.00  0.93           C
ATOM    543  O   ILE A  75      49.028  41.248   5.034  1.00  0.93           O
ATOM    544  CB  ILE A  75      51.910  39.820   4.042  1.00  0.93           C
ATOM    545  CG1 ILE A  75      52.343  38.528   3.331  1.00  0.93           C
ATOM    546  CG2 ILE A  75      51.787  39.606   5.559  1.00  0.93           C
ATOM    547  CD1 ILE A  75      53.744  38.047   3.719  1.00  0.93           C
ATOM    548  N   ALA A  76      50.411  42.676   3.974  1.00  0.96           N
ATOM    549  CA  ALA A  76      49.895  43.882   4.645  1.00  0.96           C
ATOM    550  C   ALA A  76      48.399  44.094   4.381  1.00  0.96           C
ATOM    551  O   ALA A  76      47.655  44.396   5.311  1.00  0.96           O
ATOM    552  CB  ALA A  76      50.667  45.110   4.179  1.00  0.96           C
ATOM    553  N   SER A  77      47.964  43.717   3.171  1.00  0.96           N
ATOM    554  CA  SER A  77      46.550  43.821   2.758  1.00  0.96           C
ATOM    555  C   SER A  77      45.628  42.795   3.439  1.00  0.96           C
ATOM    556  O   SER A  77      44.412  42.838   3.276  1.00  0.96           O
ATOM    557  CB  SER A  77      46.395  43.755   1.232  1.00  0.96           C
ATOM    558  OG  SER A  77      46.637  42.433   0.755  1.00  0.96           O
ATOM    559  N   HIS A  78      46.224  41.909   4.237  1.00  0.94           N
ATOM    560  CA  HIS A  78      45.470  40.966   5.079  1.00  0.94           C
ATOM    561  C   HIS A  78      45.483  41.321   6.573  1.00  0.94           C
ATOM    562  O   HIS A  78      44.862  40.612   7.364  1.00  0.94           O
ATOM    563  CB  HIS A  78      45.972  39.542   4.843  1.00  0.94           C
ATOM    564  CG  HIS A  78      45.406  38.979   3.538  1.00  0.94           C
ATOM    565  CD2 HIS A  78      46.009  38.974   2.352  1.00  0.94           C
ATOM    566  ND1 HIS A  78      44.236  38.361   3.409  1.00  0.94           N
ATOM    567  CE1 HIS A  78      44.115  37.970   2.144  1.00  0.94           C
ATOM    568  NE2 HIS A  78      45.210  38.348   1.493  1.00  0.94           N
ATOM    569  N   GLY A  79      46.124  42.440   6.917  1.00  0.94           N
ATOM    570  CA  GLY A  79      46.064  42.997   8.283  1.00  0.94           C
ATOM    571  C   GLY A  79      47.371  42.830   9.065  1.00  0.94           C
ATOM    572  O   GLY A  79      47.375  42.286  10.165  1.00  0.94           O
ATOM    573  N   PHE A  80      48.466  43.257   8.441  1.00  0.97           N
ATOM    574  CA  PHE A  80      49.797  43.230   9.072  1.00  0.97           C
ATOM    575  C   PHE A  80      50.599  44.476   8.683  1.00  0.97           C
ATOM    576  O   PHE A  80      50.394  45.061   7.626  1.00  0.97           O
ATOM    577  CB  PHE A  80      50.583  41.983   8.649  1.00  0.97           C
ATOM    578  CG  PHE A  80      49.902  40.680   9.077  1.00  0.97           C
ATOM    579  CD1 PHE A  80      50.094  40.179  10.358  1.00  0.97           C
ATOM    580  CD2 PHE A  80      49.092  39.999   8.178  1.00  0.97           C
ATOM    581  CE1 PHE A  80      49.465  38.998  10.737  1.00  0.97           C
ATOM    582  CE2 PHE A  80      48.468  38.817   8.553  1.00  0.97           C
ATOM    583  CZ  PHE A  80      48.655  38.318   9.837  1.00  0.97           C
ATOM    584  N   VAL A  81      51.501  44.850   9.589  1.00  0.94           N
ATOM    585  CA  VAL A  81      52.515  45.882   9.304  1.00  0.94           C
ATOM    586  C   VAL A  81      53.780  45.127   8.870  1.00  0.94           C
ATOM    587  O   VAL A  81      54.342  44.334   9.616  1.00  0.94           O
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ATOM    588  CB  VAL A  81      52.791  46.761  10.536  1.00  0.94           C
ATOM    589  CG1 VAL A  81      53.849  47.825  10.230  1.00  0.94           C
ATOM    590  CG2 VAL A  81      51.514  47.460  11.018  1.00  0.94           C
ATOM    591  N   VAL A  82      54.164  45.355   7.622  1.00  0.96           N
ATOM    592  CA  VAL A  82      55.236  44.570   6.987  1.00  0.96           C
ATOM    593  C   VAL A  82      56.303  45.519   6.424  1.00  0.96           C
ATOM    594  O   VAL A  82      56.003  46.403   5.632  1.00  0.96           O
ATOM    595  CB  VAL A  82      54.651  43.687   5.865  1.00  0.96           C
ATOM    596  CG1 VAL A  82      55.715  42.752   5.294  1.00  0.96           C
ATOM    597  CG2 VAL A  82      53.467  42.834   6.329  1.00  0.96           C
ATOM    598  N   ILE A  83      57.554  45.209   6.746  1.00  0.94           N
ATOM    599  CA  ILE A  83      58.710  45.883   6.132  1.00  0.94           C
ATOM    600  C   ILE A  83      59.479  44.890   5.240  1.00  0.94           C
ATOM    601  O   ILE A  83      59.882  43.808   5.639  1.00  0.94           O
ATOM    602  CB  ILE A  83      59.619  46.546   7.188  1.00  0.94           C
ATOM    603  CG1 ILE A  83      60.679  47.431   6.504  1.00  0.94           C
ATOM    604  CG2 ILE A  83      60.248  45.509   8.135  1.00  0.94           C
ATOM    605  CD1 ILE A  83      61.558  48.252   7.459  1.00  0.94           C
ATOM    606  N   THR A  84      59.673  45.348   4.008  1.00  0.94           N
ATOM    607  CA  THR A  84      60.539  44.662   3.030  1.00  0.94           C
ATOM    608  C   THR A  84      61.851  45.452   2.960  1.00  0.94           C
ATOM    609  O   THR A  84      61.845  46.629   2.630  1.00  0.94           O
ATOM    610  CB  THR A  84      59.889  44.618   1.640  1.00  0.94           C
ATOM    611  CG2 THR A  84      58.631  43.748   1.639  1.00  0.94           C
ATOM    612  OG1 THR A  84      59.574  45.940   1.203  1.00  0.94           O
ATOM    613  N   ILE A  85      62.898  44.836   3.509  1.00  0.87           N
ATOM    614  CA  ILE A  85      64.188  45.533   3.676  1.00  0.87           C
ATOM    615  C   ILE A  85      65.109  45.368   2.456  1.00  0.87           C
ATOM    616  O   ILE A  85      65.006  44.426   1.679  1.00  0.87           O
ATOM    617  CB  ILE A  85      64.924  45.073   4.952  1.00  0.87           C
ATOM    618  CG1 ILE A  85      65.409  43.616   4.851  1.00  0.87           C
ATOM    619  CG2 ILE A  85      64.021  45.292   6.175  1.00  0.87           C
ATOM    620  CD1 ILE A  85      66.413  43.197   5.931  1.00  0.87           C
ATOM    621  N   ASP A  86      65.955  46.377   2.292  1.00  0.86           N
ATOM    622  CA  ASP A  86      67.248  46.203   1.615  1.00  0.86           C
ATOM    623  C   ASP A  86      68.288  45.930   2.708  1.00  0.86           C
ATOM    624  O   ASP A  86      68.184  46.435   3.820  1.00  0.86           O
ATOM    625  CB  ASP A  86      67.642  47.474   0.857  1.00  0.86           C
ATOM    626  CG  ASP A  86      66.920  47.593  -0.486  1.00  0.86           C
ATOM    627  OD1 ASP A  86      66.793  46.554  -1.173  1.00  0.86           O
ATOM    628  OD2 ASP A  86      66.484  48.712  -0.817  1.00  0.86           O1-
ATOM    629  N   THR A  87      69.187  45.006   2.405  1.00  0.85           N
ATOM    630  CA  THR A  87      70.307  44.699   3.313  1.00  0.85           C
ATOM    631  C   THR A  87      71.429  45.726   3.109  1.00  0.85           C
ATOM    632  O   THR A  87      71.436  46.459   2.127  1.00  0.85           O
ATOM    633  CB  THR A  87      70.793  43.264   3.086  1.00  0.85           C
ATOM    634  CG2 THR A  87      69.760  42.244   3.579  1.00  0.85           C
ATOM    635  OG1 THR A  87      71.067  43.070   1.698  1.00  0.85           O
ATOM    636  N   ILE A  88      72.354  45.776   4.074  1.00  0.75           N
ATOM    637  CA  ILE A  88      73.499  46.713   4.042  1.00  0.75           C
ATOM    638  C   ILE A  88      74.195  46.633   2.668  1.00  0.75           C
ATOM    639  O   ILE A  88      74.534  47.640   2.059  1.00  0.75           O
ATOM    640  CB  ILE A  88      74.472  46.418   5.206  1.00  0.75           C
ATOM    641  CG1 ILE A  88      73.740  46.600   6.548  1.00  0.75           C
ATOM    642  CG2 ILE A  88      75.725  47.311   5.131  1.00  0.75           C
ATOM    643  CD1 ILE A  88      74.525  46.147   7.787  1.00  0.75           C
ATOM    644  N   THR A  89      74.432  45.405   2.231  1.00  0.75           N
ATOM    645  CA  THR A  89      74.874  45.125   0.854  1.00  0.75           C
ATOM    646  C   THR A  89      74.056  43.915   0.381  1.00  0.75           C
ATOM    647  O   THR A  89      73.799  42.993   1.150  1.00  0.75           O
ATOM    648  CB  THR A  89      76.388  44.839   0.732  1.00  0.75           C
ATOM    649  CG2 THR A  89      77.263  45.742   1.615  1.00  0.75           C
ATOM    650  OG1 THR A  89      76.673  43.455   0.973  1.00  0.75           O
ATOM    651  N   THR A  90      73.884  43.835  -0.939  1.00  0.73           N
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ATOM    652  CA  THR A  90      73.173  42.697  -1.563  1.00  0.73           C
ATOM    653  C   THR A  90      73.907  41.354  -1.394  1.00  0.73           C
ATOM    654  O   THR A  90      73.320  40.298  -1.604  1.00  0.73           O
ATOM    655  CB  THR A  90      72.911  42.938  -3.056  1.00  0.73           C
ATOM    656  CG2 THR A  90      72.068  44.197  -3.290  1.00  0.73           C
ATOM    657  OG1 THR A  90      74.156  43.021  -3.753  1.00  0.73           O
ATOM    658  N   LEU A  91      75.162  41.399  -0.939  1.00  0.68           N
ATOM    659  CA  LEU A  91      75.992  40.187  -0.799  1.00  0.68           C
ATOM    660  C   LEU A  91      76.192  39.714   0.644  1.00  0.68           C
ATOM    661  O   LEU A  91      76.961  38.790   0.914  1.00  0.68           O
ATOM    662  CB  LEU A  91      77.356  40.406  -1.466  1.00  0.68           C
ATOM    663  CG  LEU A  91      77.282  40.812  -2.944  1.00  0.68           C
ATOM    664  CD1 LEU A  91      78.695  40.829  -3.523  1.00  0.68           C
ATOM    665  CD2 LEU A  91      76.377  39.903  -3.783  1.00  0.68           C
ATOM    666  N   ASP A  92      75.417  40.297   1.557  1.00  0.78           N
ATOM    667  CA  ASP A  92      75.443  39.896   2.971  1.00  0.78           C
ATOM    668  C   ASP A  92      75.026  38.429   3.125  1.00  0.78           C
ATOM    669  O   ASP A  92      74.186  37.908   2.397  1.00  0.78           O
ATOM    670  CB  ASP A  92      74.535  40.805   3.802  1.00  0.78           C
ATOM    671  CG  ASP A  92      74.973  42.273   3.751  1.00  0.78           C
ATOM    672  OD1 ASP A  92      76.179  42.523   3.552  1.00  0.78           O
ATOM    673  OD2 ASP A  92      74.105  43.118   4.057  1.00  0.78           O1-
ATOM    674  N   GLN A  93      75.708  37.769   4.042  1.00  0.77           N
ATOM    675  CA  GLN A  93      75.469  36.350   4.349  1.00  0.77           C
ATOM    676  C   GLN A  93      74.237  36.180   5.269  1.00  0.77           C
ATOM    677  O   GLN A  93      73.844  37.131   5.932  1.00  0.77           O
ATOM    678  CB  GLN A  93      76.766  35.776   4.934  1.00  0.77           C
ATOM    679  CG  GLN A  93      77.883  35.675   3.883  1.00  0.77           C
ATOM    680  CD  GLN A  93      77.585  34.727   2.712  1.00  0.77           C
ATOM    681  NE2 GLN A  93      78.076  35.091   1.547  1.00  0.77           N
ATOM    682  OE1 GLN A  93      76.969  33.677   2.839  1.00  0.77           O
ATOM    683  N   PRO A  94      73.682  34.945   5.370  1.00  0.86           N
ATOM    684  CA  PRO A  94      72.462  34.658   6.149  1.00  0.86           C
ATOM    685  C   PRO A  94      72.459  35.174   7.594  1.00  0.86           C
ATOM    686  O   PRO A  94      71.540  35.891   7.981  1.00  0.86           O
ATOM    687  CB  PRO A  94      72.367  33.133   6.156  1.00  0.86           C
ATOM    688  CG  PRO A  94      72.991  32.735   4.826  1.00  0.86           C
ATOM    689  CD  PRO A  94      74.137  33.731   4.675  1.00  0.86           C
ATOM    690  N   ASP A  95      73.527  34.919   8.350  1.00  0.84           N
ATOM    691  CA  ASP A  95      73.608  35.367   9.761  1.00  0.84           C
ATOM    692  C   ASP A  95      73.638  36.891   9.934  1.00  0.84           C
ATOM    693  O   ASP A  95      73.053  37.428  10.874  1.00  0.84           O
ATOM    694  CB  ASP A  95      74.769  34.709  10.513  1.00  0.84           C
ATOM    695  CG  ASP A  95      74.577  33.196  10.658  1.00  0.84           C
ATOM    696  OD1 ASP A  95      73.420  32.732  10.507  1.00  0.84           O
ATOM    697  OD2 ASP A  95      75.602  32.501  10.775  1.00  0.84           O1-
ATOM    698  N   SER A  96      74.216  37.566   8.946  1.00  0.87           N
ATOM    699  CA  SER A  96      74.160  39.039   8.850  1.00  0.87           C
ATOM    700  C   SER A  96      72.718  39.519   8.616  1.00  0.87           C
ATOM    701  O   SER A  96      72.226  40.397   9.321  1.00  0.87           O
ATOM    702  CB  SER A  96      75.056  39.546   7.716  1.00  0.87           C
ATOM    703  OG  SER A  96      74.901  40.960   7.582  1.00  0.87           O
ATOM    704  N   ARG A  97      72.013  38.809   7.739  1.00  0.82           N
ATOM    705  CA  ARG A  97      70.600  39.091   7.413  1.00  0.82           C
ATOM    706  C   ARG A  97      69.674  38.885   8.619  1.00  0.82           C
ATOM    707  O   ARG A  97      68.738  39.657   8.806  1.00  0.82           O
ATOM    708  CB  ARG A  97      70.126  38.226   6.242  1.00  0.82           C
ATOM    709  CG  ARG A  97      70.978  38.502   5.005  1.00  0.82           C
ATOM    710  CD  ARG A  97      70.472  37.729   3.795  1.00  0.82           C
ATOM    711  NE  ARG A  97      71.372  38.031   2.673  1.00  0.82           N
ATOM    712  CZ  ARG A  97      71.106  38.813   1.628  1.00  0.82           C
ATOM    713  NH1 ARG A  97      69.922  39.382   1.466  1.00  0.82           N1+
ATOM    714  NH2 ARG A  97      72.081  39.146   0.799  1.00  0.82           N
ATOM    715  N   ALA A  98      70.044  37.951   9.495  1.00  0.91           N
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ATOM    716  CA  ALA A  98      69.329  37.699  10.763  1.00  0.91           C
ATOM    717  C   ALA A  98      69.372  38.925  11.691  1.00  0.91           C
ATOM    718  O   ALA A  98      68.332  39.418  12.124  1.00  0.91           O
ATOM    719  CB  ALA A  98      69.956  36.504  11.479  1.00  0.91           C
ATOM    720  N   GLU A  99      70.554  39.534  11.766  1.00  0.84           N
ATOM    721  CA  GLU A  99      70.771  40.765  12.555  1.00  0.84           C
ATOM    722  C   GLU A  99      70.011  41.960  11.959  1.00  0.84           C
ATOM    723  O   GLU A  99      69.401  42.743  12.682  1.00  0.84           O
ATOM    724  CB  GLU A  99      72.254  41.121  12.610  1.00  0.84           C
ATOM    725  CG  GLU A  99      73.120  40.003  13.200  1.00  0.84           C
ATOM    726  CD  GLU A  99      74.600  40.395  13.282  1.00  0.84           C
ATOM    727  OE1 GLU A  99      75.035  41.261  12.488  1.00  0.84           O
ATOM    728  OE2 GLU A  99      75.287  39.774  14.119  1.00  0.84           O1-
ATOM    729  N   GLN A 100      69.958  41.992  10.629  1.00  0.86           N
ATOM    730  CA  GLN A 100      69.270  43.058   9.874  1.00  0.86           C
ATOM    731  C   GLN A 100      67.744  42.952   9.972  1.00  0.86           C
ATOM    732  O   GLN A 100      67.062  43.961  10.134  1.00  0.86           O
ATOM    733  CB  GLN A 100      69.720  43.051   8.415  1.00  0.86           C
ATOM    734  CG  GLN A 100      71.228  43.292   8.333  1.00  0.86           C
ATOM    735  CD  GLN A 100      71.697  43.430   6.893  1.00  0.86           C
ATOM    736  NE2 GLN A 100      72.712  42.682   6.539  1.00  0.86           N
ATOM    737  OE1 GLN A 100      71.229  44.250   6.118  1.00  0.86           O
ATOM    738  N   LEU A 101      67.245  41.716  10.020  1.00  0.93           N
ATOM    739  CA  LEU A 101      65.822  41.433  10.288  1.00  0.93           C
ATOM    740  C   LEU A 101      65.402  41.907  11.683  1.00  0.93           C
ATOM    741  O   LEU A 101      64.411  42.624  11.825  1.00  0.93           O
ATOM    742  CB  LEU A 101      65.533  39.934  10.159  1.00  0.93           C
ATOM    743  CG  LEU A 101      65.461  39.467   8.704  1.00  0.93           C
ATOM    744  CD1 LEU A 101      65.420  37.939   8.664  1.00  0.93           C
ATOM    745  CD2 LEU A 101      64.214  40.032   8.019  1.00  0.93           C
ATOM    746  N   ASN A 102      66.291  41.675  12.646  1.00  0.92           N
ATOM    747  CA  ASN A 102      66.102  42.126  14.035  1.00  0.92           C
ATOM    748  C   ASN A 102      66.082  43.661  14.130  1.00  0.92           C
ATOM    749  O   ASN A 102      65.167  44.249  14.709  1.00  0.92           O
ATOM    750  CB  ASN A 102      67.223  41.553  14.904  1.00  0.92           C
ATOM    751  CG  ASN A 102      66.912  41.771  16.382  1.00  0.92           C
ATOM    752  ND2 ASN A 102      67.761  42.506  17.064  1.00  0.92           N
ATOM    753  OD1 ASN A 102      65.901  41.332  16.900  1.00  0.92           O
ATOM    754  N   ALA A 103      67.018  44.290  13.419  1.00  0.93           N
ATOM    755  CA  ALA A 103      67.112  45.760  13.325  1.00  0.93           C
ATOM    756  C   ALA A 103      65.873  46.382  12.659  1.00  0.93           C
ATOM    757  O   ALA A 103      65.352  47.392  13.125  1.00  0.93           O
ATOM    758  CB  ALA A 103      68.371  46.140  12.546  1.00  0.93           C
ATOM    759  N   ALA A 104      65.334  45.672  11.666  1.00  0.95           N
ATOM    760  CA  ALA A 104      64.122  46.077  10.931  1.00  0.95           C
ATOM    761  C   ALA A 104      62.861  46.020  11.804  1.00  0.95           C
ATOM    762  O   ALA A 104      62.072  46.966  11.812  1.00  0.95           O
ATOM    763  CB  ALA A 104      63.946  45.175   9.712  1.00  0.95           C
ATOM    764  N   LEU A 105      62.783  44.985  12.644  1.00  0.95           N
ATOM    765  CA  LEU A 105      61.698  44.846  13.636  1.00  0.95           C
ATOM    766  C   LEU A 105      61.721  45.981  14.662  1.00  0.95           C
ATOM    767  O   LEU A 105      60.726  46.688  14.829  1.00  0.95           O
ATOM    768  CB  LEU A 105      61.794  43.510  14.379  1.00  0.95           C
ATOM    769  CG  LEU A 105      61.466  42.298  13.503  1.00  0.95           C
ATOM    770  CD1 LEU A 105      61.731  41.028  14.308  1.00  0.95           C
ATOM    771  CD2 LEU A 105      60.002  42.312  13.049  1.00  0.95           C
ATOM    772  N   ASN A 106      62.932  46.298  15.115  1.00  0.89           N
ATOM    773  CA  ASN A 106      63.155  47.402  16.063  1.00  0.89           C
ATOM    774  C   ASN A 106      62.799  48.759  15.434  1.00  0.89           C
ATOM    775  O   ASN A 106      62.209  49.619  16.085  1.00  0.89           O
ATOM    776  CB  ASN A 106      64.610  47.394  16.545  1.00  0.89           C
ATOM    777  CG  ASN A 106      64.861  48.543  17.526  1.00  0.89           C
ATOM    778  ND2 ASN A 106      65.462  49.606  17.039  1.00  0.89           N
ATOM    779  OD1 ASN A 106      64.408  48.548  18.658  1.00  0.89           O
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ATOM    780  N   HIS A 107      63.098  48.898  14.144  1.00  0.89           N
ATOM    781  CA  HIS A 107      62.825  50.137  13.403  1.00  0.89           C
ATOM    782  C   HIS A 107      61.319  50.424  13.352  1.00  0.89           C
ATOM    783  O   HIS A 107      60.898  51.509  13.743  1.00  0.89           O
ATOM    784  CB  HIS A 107      63.392  50.057  11.984  1.00  0.89           C
ATOM    785  CG  HIS A 107      63.298  51.420  11.294  1.00  0.89           C
ATOM    786  CD2 HIS A 107      62.244  51.906  10.642  1.00  0.89           C
ATOM    787  ND1 HIS A 107      64.225  52.371  11.345  1.00  0.89           N
ATOM    788  CE1 HIS A 107      63.742  53.449  10.737  1.00  0.89           C
ATOM    789  NE2 HIS A 107      62.521  53.158  10.296  1.00  0.89           N
ATOM    790  N   MET A 108      60.536  49.404  13.010  1.00  0.88           N
ATOM    791  CA  MET A 108      59.071  49.544  12.923  1.00  0.88           C
ATOM    792  C   MET A 108      58.432  49.887  14.276  1.00  0.88           C
ATOM    793  O   MET A 108      57.605  50.791  14.354  1.00  0.88           O
ATOM    794  CB  MET A 108      58.433  48.260  12.401  1.00  0.88           C
ATOM    795  CG  MET A 108      58.759  47.968  10.937  1.00  0.88           C
ATOM    796  SD  MET A 108      57.784  46.556  10.300  1.00  0.88           S
ATOM    797  CE  MET A 108      58.437  45.226  11.288  1.00  0.88           C
ATOM    798  N   ILE A 109      58.953  49.256  15.328  1.00  0.84           N
ATOM    799  CA  ILE A 109      58.426  49.402  16.699  1.00  0.84           C
ATOM    800  C   ILE A 109      58.791  50.763  17.326  1.00  0.84           C
ATOM    801  O   ILE A 109      57.973  51.373  18.008  1.00  0.84           O
ATOM    802  CB  ILE A 109      58.905  48.230  17.586  1.00  0.84           C
ATOM    803  CG1 ILE A 109      58.411  46.888  17.017  1.00  0.84           C
ATOM    804  CG2 ILE A 109      58.441  48.402  19.046  1.00  0.84           C
ATOM    805  CD1 ILE A 109      59.018  45.655  17.698  1.00  0.84           C
ATOM    806  N   ASN A 110      60.024  51.195  17.083  1.00  0.80           N
ATOM    807  CA  ASN A 110      60.629  52.283  17.874  1.00  0.80           C
ATOM    808  C   ASN A 110      61.030  53.542  17.102  1.00  0.80           C
ATOM    809  O   ASN A 110      61.191  54.601  17.701  1.00  0.80           O
ATOM    810  CB  ASN A 110      61.830  51.731  18.652  1.00  0.80           C
ATOM    811  CG  ASN A 110      61.391  50.738  19.733  1.00  0.80           C
ATOM    812  ND2 ASN A 110      62.104  49.641  19.841  1.00  0.80           N
ATOM    813  OD1 ASN A 110      60.454  50.942  20.492  1.00  0.80           O
ATOM    814  N   ARG A 111      61.296  53.396  15.806  1.00  0.77           N
ATOM    815  CA  ARG A 111      61.893  54.500  15.030  1.00  0.77           C
ATOM    816  C   ARG A 111      61.067  55.035  13.853  1.00  0.77           C
ATOM    817  O   ARG A 111      61.357  56.113  13.337  1.00  0.77           O
ATOM    818  CB  ARG A 111      63.307  54.120  14.586  1.00  0.77           C
ATOM    819  CG  ARG A 111      64.191  53.801  15.797  1.00  0.77           C
ATOM    820  CD  ARG A 111      65.673  53.749  15.423  1.00  0.77           C
ATOM    821  NE  ARG A 111      66.134  55.100  15.048  1.00  0.77           N
ATOM    822  CZ  ARG A 111      66.359  56.128  15.872  1.00  0.77           C
ATOM    823  NH1 ARG A 111      66.199  56.024  17.187  1.00  0.77           N1+
ATOM    824  NH2 ARG A 111      66.713  57.302  15.372  1.00  0.77           N
ATOM    825  N   ALA A 112      60.095  54.248  13.395  1.00  0.86           N
ATOM    826  CA  ALA A 112      59.175  54.672  12.327  1.00  0.86           C
ATOM    827  C   ALA A 112      58.273  55.815  12.822  1.00  0.86           C
ATOM    828  O   ALA A 112      58.318  56.220  13.983  1.00  0.86           O
ATOM    829  CB  ALA A 112      58.353  53.459  11.889  1.00  0.86           C
ATOM    830  N   SER A 113      57.496  56.383  11.908  1.00  0.84           N
ATOM    831  CA  SER A 113      56.517  57.427  12.273  1.00  0.84           C
ATOM    832  C   SER A 113      55.515  56.854  13.293  1.00  0.84           C
ATOM    833  O   SER A 113      55.267  55.649  13.336  1.00  0.84           O
ATOM    834  CB  SER A 113      55.757  57.924  11.039  1.00  0.84           C
ATOM    835  OG  SER A 113      54.742  56.984  10.667  1.00  0.84           O
ATOM    836  N   SER A 114      54.832  57.768  13.980  1.00  0.77           N
ATOM    837  CA  SER A 114      53.754  57.392  14.917  1.00  0.77           C
ATOM    838  C   SER A 114      52.622  56.634  14.220  1.00  0.77           C
ATOM    839  O   SER A 114      52.136  55.662  14.791  1.00  0.77           O
ATOM    840  CB  SER A 114      53.158  58.607  15.624  1.00  0.77           C
ATOM    841  OG  SER A 114      54.194  59.277  16.344  1.00  0.77           O
ATOM    842  N   THR A 115      52.393  56.922  12.940  1.00  0.77           N
ATOM    843  CA  THR A 115      51.385  56.221  12.111  1.00  0.77           C
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ATOM    844  C   THR A 115      51.684  54.711  12.065  1.00  0.77           C
ATOM    845  O   THR A 115      50.794  53.895  12.292  1.00  0.77           O
ATOM    846  CB  THR A 115      51.356  56.797  10.685  1.00  0.77           C
ATOM    847  CG2 THR A 115      50.296  56.140   9.795  1.00  0.77           C
ATOM    848  OG1 THR A 115      51.128  58.210  10.747  1.00  0.77           O
ATOM    849  N   VAL A 116      52.951  54.376  11.839  1.00  0.84           N
ATOM    850  CA  VAL A 116      53.412  52.970  11.822  1.00  0.84           C
ATOM    851  C   VAL A 116      53.450  52.372  13.240  1.00  0.84           C
ATOM    852  O   VAL A 116      52.862  51.323  13.483  1.00  0.84           O
ATOM    853  CB  VAL A 116      54.778  52.850  11.122  1.00  0.84           C
ATOM    854  CG1 VAL A 116      55.365  51.434  11.202  1.00  0.84           C
ATOM    855  CG2 VAL A 116      54.650  53.223   9.644  1.00  0.84           C
ATOM    856  N   ARG A 117      54.105  53.085  14.154  1.00  0.75           N
ATOM    857  CA  ARG A 117      54.359  52.577  15.517  1.00  0.75           C
ATOM    858  C   ARG A 117      53.074  52.275  16.297  1.00  0.75           C
ATOM    859  O   ARG A 117      52.941  51.210  16.895  1.00  0.75           O
ATOM    860  CB  ARG A 117      55.204  53.576  16.301  1.00  0.75           C
ATOM    861  CG  ARG A 117      56.624  53.679  15.742  1.00  0.75           C
ATOM    862  CD  ARG A 117      57.432  54.703  16.534  1.00  0.75           C
ATOM    863  NE  ARG A 117      57.597  54.276  17.935  1.00  0.75           N
ATOM    864  CZ  ARG A 117      58.065  55.034  18.923  1.00  0.75           C
ATOM    865  NH1 ARG A 117      58.434  56.291  18.710  1.00  0.75           N1+
ATOM    866  NH2 ARG A 117      58.162  54.540  20.150  1.00  0.75           N
ATOM    867  N   SER A 118      52.080  53.147  16.122  1.00  0.75           N
ATOM    868  CA  SER A 118      50.753  52.988  16.756  1.00  0.75           C
ATOM    869  C   SER A 118      49.951  51.794  16.219  1.00  0.75           C
ATOM    870  O   SER A 118      49.063  51.292  16.905  1.00  0.75           O
ATOM    871  CB  SER A 118      49.908  54.259  16.635  1.00  0.75           C
ATOM    872  OG  SER A 118      49.657  54.589  15.264  1.00  0.75           O
ATOM    873  N   ARG A 119      50.263  51.376  14.992  1.00  0.71           N
ATOM    874  CA  ARG A 119      49.597  50.231  14.344  1.00  0.71           C
ATOM    875  C   ARG A 119      50.232  48.868  14.655  1.00  0.71           C
ATOM    876  O   ARG A 119      49.810  47.844  14.121  1.00  0.71           O
ATOM    877  CB  ARG A 119      49.587  50.438  12.831  1.00  0.71           C
ATOM    878  CG  ARG A 119      48.505  51.427  12.424  1.00  0.71           C
ATOM    879  CD  ARG A 119      48.558  51.652  10.914  1.00  0.71           C
ATOM    880  NE  ARG A 119      47.428  52.485  10.460  1.00  0.71           N
ATOM    881  CZ  ARG A 119      47.146  53.737  10.832  1.00  0.71           C
ATOM    882  NH1 ARG A 119      47.919  54.401  11.684  1.00  0.71           N1+
ATOM    883  NH2 ARG A 119      46.057  54.335  10.378  1.00  0.71           N
ATOM    884  N   ILE A 120      51.201  48.852  15.570  1.00  0.84           N
ATOM    885  CA  ILE A 120      51.925  47.615  15.905  1.00  0.84           C
ATOM    886  C   ILE A 120      51.661  47.222  17.363  1.00  0.84           C
ATOM    887  O   ILE A 120      51.858  47.994  18.299  1.00  0.84           O
ATOM    888  CB  ILE A 120      53.439  47.762  15.630  1.00  0.84           C
ATOM    889  CG1 ILE A 120      53.681  48.076  14.146  1.00  0.84           C
ATOM    890  CG2 ILE A 120      54.222  46.504  16.056  1.00  0.84           C
ATOM    891  CD1 ILE A 120      55.134  48.414  13.794  1.00  0.84           C
ATOM    892  N   ASP A 121      51.344  45.941  17.499  1.00  0.79           N
ATOM    893  CA  ASP A 121      51.435  45.244  18.784  1.00  0.79           C
ATOM    894  C   ASP A 121      52.845  44.628  18.825  1.00  0.79           C
ATOM    895  O   ASP A 121      53.087  43.564  18.266  1.00  0.79           O
ATOM    896  CB  ASP A 121      50.356  44.157  18.872  1.00  0.79           C
ATOM    897  CG  ASP A 121      50.353  43.460  20.237  1.00  0.79           C
ATOM    898  OD1 ASP A 121      51.381  43.575  20.942  1.00  0.79           O
ATOM    899  OD2 ASP A 121      49.301  42.876  20.574  1.00  0.79           O1-
ATOM    900  N   SER A 122      53.736  45.293  19.559  1.00  0.89           N
ATOM    901  CA  SER A 122      55.162  44.902  19.609  1.00  0.89           C
ATOM    902  C   SER A 122      55.444  43.516  20.212  1.00  0.89           C
ATOM    903  O   SER A 122      56.544  42.994  20.066  1.00  0.89           O
ATOM    904  CB  SER A 122      55.998  45.961  20.328  1.00  0.89           C
ATOM    905  OG  SER A 122      55.518  46.169  21.657  1.00  0.89           O
ATOM    906  N   SER A 123      54.441  42.936  20.878  1.00  0.86           N
ATOM    907  CA  SER A 123      54.541  41.567  21.419  1.00  0.86           C
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ATOM    908  C   SER A 123      54.236  40.472  20.380  1.00  0.86           C
ATOM    909  O   SER A 123      54.363  39.288  20.681  1.00  0.86           O
ATOM    910  CB  SER A 123      53.633  41.388  22.643  1.00  0.86           C
ATOM    911  OG  SER A 123      52.256  41.419  22.259  1.00  0.86           O
ATOM    912  N   ARG A 124      53.809  40.875  19.178  1.00  0.80           N
ATOM    913  CA  ARG A 124      53.417  39.936  18.109  1.00  0.80           C
ATOM    914  C   ARG A 124      54.182  40.219  16.807  1.00  0.80           C
ATOM    915  O   ARG A 124      53.795  41.019  15.961  1.00  0.80           O
ATOM    916  CB  ARG A 124      51.898  39.974  17.899  1.00  0.80           C
ATOM    917  CG  ARG A 124      51.156  39.611  19.192  1.00  0.80           C
ATOM    918  CD  ARG A 124      49.647  39.456  19.010  1.00  0.80           C
ATOM    919  NE  ARG A 124      49.012  40.714  18.574  1.00  0.80           N
ATOM    920  CZ  ARG A 124      48.403  40.906  17.403  1.00  0.80           C
ATOM    921  NH1 ARG A 124      48.378  39.949  16.490  1.00  0.80           N1+
ATOM    922  NH2 ARG A 124      47.729  42.024  17.165  1.00  0.80           N
ATOM    923  N   LEU A 125      55.333  39.557  16.719  1.00  0.91           N
ATOM    924  CA  LEU A 125      56.299  39.779  15.627  1.00  0.91           C
ATOM    925  C   LEU A 125      56.563  38.485  14.851  1.00  0.91           C
ATOM    926  O   LEU A 125      56.435  37.391  15.381  1.00  0.91           O
ATOM    927  CB  LEU A 125      57.619  40.308  16.203  1.00  0.91           C
ATOM    928  CG  LEU A 125      57.454  41.546  17.094  1.00  0.91           C
ATOM    929  CD1 LEU A 125      58.806  41.913  17.702  1.00  0.91           C
ATOM    930  CD2 LEU A 125      56.862  42.736  16.330  1.00  0.91           C
ATOM    931  N   ALA A 126      56.974  38.661  13.594  1.00  0.98           N
ATOM    932  CA  ALA A 126      57.294  37.540  12.696  1.00  0.98           C
ATOM    933  C   ALA A 126      58.341  37.964  11.657  1.00  0.98           C
ATOM    934  O   ALA A 126      58.510  39.133  11.342  1.00  0.98           O
ATOM    935  CB  ALA A 126      56.030  37.070  11.975  1.00  0.98           C
ATOM    936  N   VAL A 127      59.096  36.954  11.221  1.00  0.94           N
ATOM    937  CA  VAL A 127      60.149  37.142  10.209  1.00  0.94           C
ATOM    938  C   VAL A 127      59.969  36.174   9.031  1.00  0.94           C
ATOM    939  O   VAL A 127      59.503  35.053   9.171  1.00  0.94           O
ATOM    940  CB  VAL A 127      61.560  37.021  10.817  1.00  0.94           C
ATOM    941  CG1 VAL A 127      61.835  38.180  11.777  1.00  0.94           C
ATOM    942  CG2 VAL A 127      61.784  35.703  11.564  1.00  0.94           C
ATOM    943  N   MET A 128      60.336  36.693   7.862  1.00  0.94           N
ATOM    944  CA  MET A 128      60.311  35.946   6.595  1.00  0.94           C
ATOM    945  C   MET A 128      61.549  36.358   5.791  1.00  0.94           C
ATOM    946  O   MET A 128      62.126  37.422   6.004  1.00  0.94           O
ATOM    947  CB  MET A 128      59.063  36.315   5.790  1.00  0.94           C
ATOM    948  CG  MET A 128      57.757  36.036   6.539  1.00  0.94           C
ATOM    949  SD  MET A 128      56.268  36.527   5.602  1.00  0.94           S
ATOM    950  CE  MET A 128      56.400  35.421   4.213  1.00  0.94           C
ATOM    951  N   GLY A 129      61.933  35.481   4.857  1.00  0.99           N
ATOM    952  CA  GLY A 129      63.058  35.800   3.971  1.00  0.99           C
ATOM    953  C   GLY A 129      63.149  34.841   2.790  1.00  0.99           C
ATOM    954  O   GLY A 129      62.781  33.677   2.880  1.00  0.99           O
ATOM    955  N   HIS A 130      63.701  35.384   1.709  1.00  0.90           N
ATOM    956  CA  HIS A 130      63.969  34.610   0.493  1.00  0.90           C
ATOM    957  C   HIS A 130      65.437  34.170   0.481  1.00  0.90           C
ATOM    958  O   HIS A 130      66.342  34.974   0.669  1.00  0.90           O
ATOM    959  CB  HIS A 130      63.675  35.476  -0.740  1.00  0.90           C
ATOM    960  CG  HIS A 130      64.023  34.771  -2.056  1.00  0.90           C
ATOM    961  CD2 HIS A 130      63.787  33.499  -2.364  1.00  0.90           C
ATOM    962  ND1 HIS A 130      64.664  35.326  -3.078  1.00  0.90           N
ATOM    963  CE1 HIS A 130      64.832  34.383  -4.007  1.00  0.90           C
ATOM    964  NE2 HIS A 130      64.282  33.259  -3.570  1.00  0.90           N
ATOM    965  N   SER A 131      65.633  32.864   0.294  1.00  0.91           N
ATOM    966  CA  SER A 131      66.964  32.244   0.114  1.00  0.91           C
ATOM    967  C   SER A 131      67.878  32.482   1.329  1.00  0.91           C
ATOM    968  O   SER A 131      67.542  32.041   2.424  1.00  0.91           O
ATOM    969  CB  SER A 131      67.561  32.738  -1.211  1.00  0.91           C
ATOM    970  OG  SER A 131      68.807  32.093  -1.475  1.00  0.91           O
ATOM    971  N   MET A 132      68.914  33.320   1.192  1.00  0.83           N
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ATOM    972  CA  MET A 132      69.784  33.714   2.319  1.00  0.83           C
ATOM    973  C   MET A 132      69.006  34.489   3.389  1.00  0.83           C
ATOM    974  O   MET A 132      69.246  34.302   4.585  1.00  0.83           O
ATOM    975  CB  MET A 132      70.976  34.558   1.863  1.00  0.83           C
ATOM    976  CG  MET A 132      72.051  33.721   1.173  1.00  0.83           C
ATOM    977  SD  MET A 132      73.607  34.663   0.986  1.00  0.83           S
ATOM    978  CE  MET A 132      74.622  33.415   0.224  1.00  0.83           C
ATOM    979  N   GLY A 133      68.006  35.253   2.936  1.00  0.98           N
ATOM    980  CA  GLY A 133      67.028  35.926   3.814  1.00  0.98           C
ATOM    981  C   GLY A 133      66.211  34.912   4.628  1.00  0.98           C
ATOM    982  O   GLY A 133      66.001  35.115   5.824  1.00  0.98           O
ATOM    983  N   GLY A 134      65.888  33.784   3.987  1.00  1.00           N
ATOM    984  CA  GLY A 134      65.211  32.631   4.627  1.00  1.00           C
ATOM    985  C   GLY A 134      66.102  31.963   5.683  1.00  1.00           C
ATOM    986  O   GLY A 134      65.651  31.685   6.799  1.00  1.00           O
ATOM    987  N   GLY A 135      67.396  31.864   5.357  1.00  0.97           N
ATOM    988  CA  GLY A 135      68.431  31.383   6.297  1.00  0.97           C
ATOM    989  C   GLY A 135      68.563  32.326   7.502  1.00  0.97           C
ATOM    990  O   GLY A 135      68.609  31.886   8.654  1.00  0.97           O
ATOM    991  N   GLY A 136      68.483  33.630   7.205  1.00  0.98           N
ATOM    992  CA  GLY A 136      68.463  34.710   8.209  1.00  0.98           C
ATOM    993  C   GLY A 136      67.256  34.608   9.155  1.00  0.98           C
ATOM    994  O   GLY A 136      67.410  34.722  10.368  1.00  0.98           O
ATOM    995  N   THR A 137      66.107  34.235   8.589  1.00  0.95           N
ATOM    996  CA  THR A 137      64.852  34.020   9.343  1.00  0.95           C
ATOM    997  C   THR A 137      65.001  32.860  10.339  1.00  0.95           C
ATOM    998  O   THR A 137      64.627  32.999  11.499  1.00  0.95           O
ATOM    999  CB  THR A 137      63.704  33.751   8.357  1.00  0.95           C
ATOM   1000  CG2 THR A 137      62.368  33.409   9.014  1.00  0.95           C
ATOM   1001  OG1 THR A 137      63.543  34.893   7.516  1.00  0.95           O
ATOM   1002  N   LEU A 138      65.635  31.780   9.886  1.00  0.91           N
ATOM   1003  CA  LEU A 138      65.907  30.602  10.735  1.00  0.91           C
ATOM   1004  C   LEU A 138      66.868  30.908  11.887  1.00  0.91           C
ATOM   1005  O   LEU A 138      66.576  30.598  13.040  1.00  0.91           O
ATOM   1006  CB  LEU A 138      66.467  29.451   9.895  1.00  0.91           C
ATOM   1007  CG  LEU A 138      65.385  28.769   9.056  1.00  0.91           C
ATOM   1008  CD1 LEU A 138      66.043  27.810   8.064  1.00  0.91           C
ATOM   1009  CD2 LEU A 138      64.402  28.000   9.946  1.00  0.91           C
ATOM   1010  N   ARG A 139      67.901  31.685  11.570  1.00  0.84           N
ATOM   1011  CA  ARG A 139      68.891  32.112  12.575  1.00  0.84           C
ATOM   1012  C   ARG A 139      68.243  33.021  13.626  1.00  0.84           C
ATOM   1013  O   ARG A 139      68.402  32.806  14.830  1.00  0.84           O
ATOM   1014  CB  ARG A 139      70.079  32.820  11.911  1.00  0.84           C
ATOM   1015  CG  ARG A 139      71.110  33.304  12.945  1.00  0.84           C
ATOM   1016  CD  ARG A 139      71.729  32.154  13.741  1.00  0.84           C
ATOM   1017  NE  ARG A 139      72.680  31.451  12.868  1.00  0.84           N
ATOM   1018  CZ  ARG A 139      73.338  30.331  13.150  1.00  0.84           C
ATOM   1019  NH1 ARG A 139      73.131  29.689  14.292  1.00  0.84           N1+
ATOM   1020  NH2 ARG A 139      74.270  29.879  12.323  1.00  0.84           N
ATOM   1021  N   LEU A 140      67.529  34.033  13.191  1.00  0.91           N
ATOM   1022  CA  LEU A 140      66.861  34.939  14.138  1.00  0.91           C
ATOM   1023  C   LEU A 140      65.796  34.219  14.979  1.00  0.91           C
ATOM   1024  O   LEU A 140      65.728  34.431  16.186  1.00  0.91           O
ATOM   1025  CB  LEU A 140      66.264  36.146  13.424  1.00  0.91           C
ATOM   1026  CG  LEU A 140      65.791  37.195  14.438  1.00  0.91           C
ATOM   1027  CD1 LEU A 140      66.954  37.753  15.266  1.00  0.91           C
ATOM   1028  CD2 LEU A 140      65.063  38.320  13.712  1.00  0.91           C
ATOM   1029  N   ALA A 141      65.096  33.275  14.362  1.00  0.94           N
ATOM   1030  CA  ALA A 141      64.082  32.446  15.045  1.00  0.94           C
ATOM   1031  C   ALA A 141      64.696  31.586  16.160  1.00  0.94           C
ATOM   1032  O   ALA A 141      64.148  31.522  17.257  1.00  0.94           O
ATOM   1033  CB  ALA A 141      63.369  31.548  14.035  1.00  0.94           C
ATOM   1034  N   SER A 142      65.903  31.072  15.906  1.00  0.91           N
ATOM   1035  CA  SER A 142      66.659  30.283  16.904  1.00  0.91           C
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ATOM   1036  C   SER A 142      67.106  31.150  18.093  1.00  0.91           C
ATOM   1037  O   SER A 142      67.212  30.670  19.218  1.00  0.91           O
ATOM   1038  CB  SER A 142      67.880  29.589  16.282  1.00  0.91           C
ATOM   1039  OG  SER A 142      68.921  30.526  15.992  1.00  0.91           O
ATOM   1040  N   GLN A 143      67.345  32.430  17.811  1.00  0.84           N
ATOM   1041  CA  GLN A 143      67.804  33.419  18.802  1.00  0.84           C
ATOM   1042  C   GLN A 143      66.646  34.069  19.572  1.00  0.84           C
ATOM   1043  O   GLN A 143      66.809  34.488  20.713  1.00  0.84           O
ATOM   1044  CB  GLN A 143      68.615  34.508  18.097  1.00  0.84           C
ATOM   1045  CG  GLN A 143      69.843  33.935  17.381  1.00  0.84           C
ATOM   1046  CD  GLN A 143      70.558  34.979  16.522  1.00  0.84           C
ATOM   1047  NE2 GLN A 143      71.837  34.761  16.315  1.00  0.84           N
ATOM   1048  OE1 GLN A 143      70.015  35.958  16.026  1.00  0.84           O
ATOM   1049  N   ARG A 144      65.486  34.147  18.917  1.00  0.83           N
ATOM   1050  CA  ARG A 144      64.304  34.832  19.447  1.00  0.83           C
ATOM   1051  C   ARG A 144      63.078  33.902  19.467  1.00  0.83           C
ATOM   1052  O   ARG A 144      62.191  34.011  18.622  1.00  0.83           O
ATOM   1053  CB  ARG A 144      64.022  36.099  18.638  1.00  0.83           C
ATOM   1054  CG  ARG A 144      65.106  37.161  18.812  1.00  0.83           C
ATOM   1055  CD  ARG A 144      64.630  38.491  18.233  1.00  0.83           C
ATOM   1056  NE  ARG A 144      63.462  38.970  18.996  1.00  0.83           N
ATOM   1057  CZ  ARG A 144      62.859  40.146  18.840  1.00  0.83           C
ATOM   1058  NH1 ARG A 144      63.274  41.030  17.950  1.00  0.83           N1+
ATOM   1059  NH2 ARG A 144      61.820  40.476  19.587  1.00  0.83           N
ATOM   1060  N   PRO A 145      62.968  33.097  20.540  1.00  0.86           N
ATOM   1061  CA  PRO A 145      61.786  32.250  20.782  1.00  0.86           C
ATOM   1062  C   PRO A 145      60.494  33.059  20.990  1.00  0.86           C
ATOM   1063  O   PRO A 145      59.400  32.505  20.935  1.00  0.86           O
ATOM   1064  CB  PRO A 145      62.150  31.411  22.010  1.00  0.86           C
ATOM   1065  CG  PRO A 145      63.145  32.288  22.766  1.00  0.86           C
ATOM   1066  CD  PRO A 145      63.934  32.967  21.648  1.00  0.86           C
ATOM   1067  N   ASP A 146      60.639  34.344  21.305  1.00  0.83           N
ATOM   1068  CA  ASP A 146      59.500  35.271  21.452  1.00  0.83           C
ATOM   1069  C   ASP A 146      58.755  35.552  20.132  1.00  0.83           C
ATOM   1070  O   ASP A 146      57.599  35.972  20.172  1.00  0.83           O
ATOM   1071  CB  ASP A 146      59.946  36.573  22.124  1.00  0.83           C
ATOM   1072  CG  ASP A 146      60.917  37.391  21.275  1.00  0.83           C
ATOM   1073  OD1 ASP A 146      61.990  36.848  20.920  1.00  0.83           O
ATOM   1074  OD2 ASP A 146      60.542  38.537  20.981  1.00  0.83           O1-
ATOM   1075  N   LEU A 147      59.452  35.445  19.002  1.00  0.88           N
ATOM   1076  CA  LEU A 147      58.816  35.602  17.678  1.00  0.88           C
ATOM   1077  C   LEU A 147      57.652  34.615  17.530  1.00  0.88           C
ATOM   1078  O   LEU A 147      57.732  33.463  17.939  1.00  0.88           O
ATOM   1079  CB  LEU A 147      59.820  35.374  16.542  1.00  0.88           C
ATOM   1080  CG  LEU A 147      60.983  36.376  16.537  1.00  0.88           C
ATOM   1081  CD1 LEU A 147      61.935  36.043  15.390  1.00  0.88           C
ATOM   1082  CD2 LEU A 147      60.500  37.825  16.416  1.00  0.88           C
ATOM   1083  N   LYS A 148      56.580  35.128  16.937  1.00  0.84           N
ATOM   1084  CA  LYS A 148      55.332  34.365  16.760  1.00  0.84           C
ATOM   1085  C   LYS A 148      55.354  33.391  15.577  1.00  0.84           C
ATOM   1086  O   LYS A 148      54.648  32.389  15.585  1.00  0.84           O
ATOM   1087  CB  LYS A 148      54.136  35.319  16.641  1.00  0.84           C
ATOM   1088  CG  LYS A 148      53.904  36.144  17.912  1.00  0.84           C
ATOM   1089  CD  LYS A 148      53.645  35.257  19.134  1.00  0.84           C
ATOM   1090  CE  LYS A 148      53.338  36.097  20.371  1.00  0.84           C
ATOM   1091  NZ  LYS A 148      53.111  35.235  21.539  1.00  0.84           N1+
ATOM   1092  N   ALA A 149      56.145  33.725  14.551  1.00  0.94           N
ATOM   1093  CA  ALA A 149      56.224  32.931  13.311  1.00  0.94           C
ATOM   1094  C   ALA A 149      57.448  33.294  12.457  1.00  0.94           C
ATOM   1095  O   ALA A 149      57.976  34.399  12.508  1.00  0.94           O
ATOM   1096  CB  ALA A 149      54.954  33.119  12.469  1.00  0.94           C
ATOM   1097  N   ALA A 150      57.931  32.261  11.765  1.00  0.99           N
ATOM   1098  CA  ALA A 150      59.025  32.377  10.791  1.00  0.99           C
ATOM   1099  C   ALA A 150      58.640  31.637   9.501  1.00  0.99           C
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ATOM   1100  O   ALA A 150      58.103  30.534   9.542  1.00  0.99           O
ATOM   1101  CB  ALA A 150      60.289  31.768  11.400  1.00  0.99           C
ATOM   1102  N   ILE A 151      58.854  32.312   8.366  1.00  0.91           N
ATOM   1103  CA  ILE A 151      58.537  31.730   7.045  1.00  0.91           C
ATOM   1104  C   ILE A 151      59.751  31.844   6.093  1.00  0.91           C
ATOM   1105  O   ILE A 151      59.902  32.821   5.368  1.00  0.91           O
ATOM   1106  CB  ILE A 151      57.253  32.327   6.423  1.00  0.91           C
ATOM   1107  CG1 ILE A 151      56.073  32.253   7.407  1.00  0.91           C
ATOM   1108  CG2 ILE A 151      56.908  31.580   5.123  1.00  0.91           C
ATOM   1109  CD1 ILE A 151      54.811  32.995   6.950  1.00  0.91           C
ATOM   1110  N   PRO A 152      60.661  30.850   6.173  1.00  0.98           N
ATOM   1111  CA  PRO A 152      61.796  30.738   5.241  1.00  0.98           C
ATOM   1112  C   PRO A 152      61.282  30.315   3.857  1.00  0.98           C
ATOM   1113  O   PRO A 152      60.713  29.245   3.675  1.00  0.98           O
ATOM   1114  CB  PRO A 152      62.679  29.640   5.838  1.00  0.98           C
ATOM   1115  CG  PRO A 152      62.324  29.650   7.319  1.00  0.98           C
ATOM   1116  CD  PRO A 152      60.824  29.923   7.301  1.00  0.98           C
ATOM   1117  N   LEU A 153      61.558  31.172   2.872  1.00  0.91           N
ATOM   1118  CA  LEU A 153      61.130  30.945   1.479  1.00  0.91           C
ATOM   1119  C   LEU A 153      62.347  30.563   0.643  1.00  0.91           C
ATOM   1120  O   LEU A 153      63.339  31.273   0.636  1.00  0.91           O
ATOM   1121  CB  LEU A 153      60.558  32.233   0.887  1.00  0.91           C
ATOM   1122  CG  LEU A 153      59.396  32.794   1.702  1.00  0.91           C
ATOM   1123  CD1 LEU A 153      59.031  34.167   1.153  1.00  0.91           C
ATOM   1124  CD2 LEU A 153      58.182  31.866   1.642  1.00  0.91           C
ATOM   1125  N   THR A 154      62.249  29.368   0.035  1.00  0.93           N
ATOM   1126  CA  THR A 154      63.370  28.703  -0.671  1.00  0.93           C
ATOM   1127  C   THR A 154      64.723  28.976   0.032  1.00  0.93           C
ATOM   1128  O   THR A 154      65.643  29.550  -0.555  1.00  0.93           O
ATOM   1129  CB  THR A 154      63.397  29.076  -2.161  1.00  0.93           C
ATOM   1130  CG2 THR A 154      62.127  28.608  -2.874  1.00  0.93           C
ATOM   1131  OG1 THR A 154      63.548  30.486  -2.298  1.00  0.93           O
ATOM   1132  N   PRO A 155      64.766  28.676   1.342  1.00  0.93           N
ATOM   1133  CA  PRO A 155      65.847  29.114   2.242  1.00  0.93           C
ATOM   1134  C   PRO A 155      67.195  28.483   1.876  1.00  0.93           C
ATOM   1135  O   PRO A 155      67.264  27.365   1.383  1.00  0.93           O
ATOM   1136  CB  PRO A 155      65.384  28.683   3.633  1.00  0.93           C
ATOM   1137  CG  PRO A 155      64.563  27.423   3.361  1.00  0.93           C
ATOM   1138  CD  PRO A 155      63.862  27.738   2.046  1.00  0.93           C
ATOM   1139  N   TRP A 156      68.235  29.267   2.141  1.00  0.85           N
ATOM   1140  CA  TRP A 156      69.634  28.853   1.957  1.00  0.85           C
ATOM   1141  C   TRP A 156      70.379  29.187   3.255  1.00  0.85           C
ATOM   1142  O   TRP A 156      70.226  30.278   3.789  1.00  0.85           O
ATOM   1143  CB  TRP A 156      70.241  29.654   0.802  1.00  0.85           C
ATOM   1144  CG  TRP A 156      71.642  29.149   0.409  1.00  0.85           C
ATOM   1145  CD1 TRP A 156      71.906  28.399  -0.680  1.00  0.85           C
ATOM   1146  CD2 TRP A 156      72.819  29.429   0.968  1.00  0.85           C
ATOM   1147  CE2 TRP A 156      73.854  28.855   0.247  1.00  0.85           C
ATOM   1148  CE3 TRP A 156      73.219  30.200   2.133  1.00  0.85           C
ATOM   1149  NE1 TRP A 156      73.193  28.211  -0.800  1.00  0.85           N
ATOM   1150  CZ2 TRP A 156      75.132  28.963   0.548  1.00  0.85           C
ATOM   1151  CZ3 TRP A 156      74.524  30.319   2.447  1.00  0.85           C
ATOM   1152  CH2 TRP A 156      75.526  29.728   1.694  1.00  0.85           C
ATOM   1153  N   HIS A 157      71.203  28.234   3.706  1.00  0.81           N
ATOM   1154  CA  HIS A 157      72.065  28.419   4.886  1.00  0.81           C
ATOM   1155  C   HIS A 157      73.009  27.215   4.985  1.00  0.81           C
ATOM   1156  O   HIS A 157      72.599  26.090   4.726  1.00  0.81           O
ATOM   1157  CB  HIS A 157      71.212  28.499   6.159  1.00  0.81           C
ATOM   1158  CG  HIS A 157      71.975  29.143   7.316  1.00  0.81           C
ATOM   1159  CD2 HIS A 157      71.613  30.248   7.957  1.00  0.81           C
ATOM   1160  ND1 HIS A 157      73.133  28.733   7.832  1.00  0.81           N
ATOM   1161  CE1 HIS A 157      73.476  29.580   8.795  1.00  0.81           C
ATOM   1162  NE2 HIS A 157      72.542  30.521   8.865  1.00  0.81           N
ATOM   1163  N   LEU A 158      74.256  27.498   5.347  1.00  0.72           N
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ATOM   1164  CA  LEU A 158      75.286  26.454   5.522  1.00  0.72           C
ATOM   1165  C   LEU A 158      75.006  25.514   6.701  1.00  0.72           C
ATOM   1166  O   LEU A 158      75.305  24.324   6.642  1.00  0.72           O
ATOM   1167  CB  LEU A 158      76.677  27.086   5.642  1.00  0.72           C
ATOM   1168  CG  LEU A 158      77.099  27.799   4.350  1.00  0.72           C
ATOM   1169  CD1 LEU A 158      78.466  28.454   4.547  1.00  0.72           C
ATOM   1170  CD2 LEU A 158      77.141  26.844   3.152  1.00  0.72           C
ATOM   1171  N   ASN A 159      74.474  26.087   7.780  1.00  0.76           N
ATOM   1172  CA  ASN A 159      73.963  25.296   8.905  1.00  0.76           C
ATOM   1173  C   ASN A 159      72.618  24.674   8.497  1.00  0.76           C
ATOM   1174  O   ASN A 159      71.687  25.366   8.093  1.00  0.76           O
ATOM   1175  CB  ASN A 159      73.789  26.177  10.147  1.00  0.76           C
ATOM   1176  CG  ASN A 159      73.263  25.358  11.330  1.00  0.76           C
ATOM   1177  ND2 ASN A 159      72.282  25.904  12.009  1.00  0.76           N
ATOM   1178  OD1 ASN A 159      73.643  24.219  11.564  1.00  0.76           O
ATOM   1179  N   LYS A 160      72.517  23.387   8.799  1.00  0.74           N
ATOM   1180  CA  LYS A 160      71.315  22.588   8.481  1.00  0.74           C
ATOM   1181  C   LYS A 160      70.518  22.234   9.746  1.00  0.74           C
ATOM   1182  O   LYS A 160      69.343  21.875   9.691  1.00  0.74           O
ATOM   1183  CB  LYS A 160      71.713  21.297   7.751  1.00  0.74           C
ATOM   1184  CG  LYS A 160      72.704  21.496   6.594  1.00  0.74           C
ATOM   1185  CD  LYS A 160      72.201  22.452   5.511  1.00  0.74           C
ATOM   1186  CE  LYS A 160      73.285  22.654   4.455  1.00  0.74           C
ATOM   1187  NZ  LYS A 160      72.821  23.571   3.410  1.00  0.74           N1+
ATOM   1188  N   ASN A 161      71.176  22.401  10.892  1.00  0.76           N
ATOM   1189  CA  ASN A 161      70.634  22.012  12.195  1.00  0.76           C
ATOM   1190  C   ASN A 161      69.926  23.199  12.869  1.00  0.76           C
ATOM   1191  O   ASN A 161      70.559  24.086  13.436  1.00  0.76           O
ATOM   1192  CB  ASN A 161      71.786  21.494  13.061  1.00  0.76           C
ATOM   1193  CG  ASN A 161      71.276  20.895  14.371  1.00  0.76           C
ATOM   1194  ND2 ASN A 161      72.090  20.061  14.973  1.00  0.76           N
ATOM   1195  OD1 ASN A 161      70.159  21.118  14.813  1.00  0.76           O
ATOM   1196  N   TRP A 162      68.599  23.144  12.806  1.00  0.80           N
ATOM   1197  CA  TRP A 162      67.728  24.154  13.423  1.00  0.80           C
ATOM   1198  C   TRP A 162      66.841  23.536  14.514  1.00  0.80           C
ATOM   1199  O   TRP A 162      65.753  24.018  14.812  1.00  0.80           O
ATOM   1200  CB  TRP A 162      66.887  24.827  12.332  1.00  0.80           C
ATOM   1201  CG  TRP A 162      67.793  25.545  11.334  1.00  0.80           C
ATOM   1202  CD1 TRP A 162      68.053  25.142  10.091  1.00  0.80           C
ATOM   1203  CD2 TRP A 162      68.584  26.641  11.594  1.00  0.80           C
ATOM   1204  CE2 TRP A 162      69.328  26.871  10.449  1.00  0.80           C
ATOM   1205  CE3 TRP A 162      68.751  27.453  12.719  1.00  0.80           C
ATOM   1206  NE1 TRP A 162      68.973  25.935   9.553  1.00  0.80           N
ATOM   1207  CZ2 TRP A 162      70.235  27.907  10.412  1.00  0.80           C
ATOM   1208  CZ3 TRP A 162      69.653  28.500  12.675  1.00  0.80           C
ATOM   1209  CH2 TRP A 162      70.397  28.736  11.527  1.00  0.80           C
ATOM   1210  N   SER A 163      67.432  22.569  15.224  1.00  0.80           N
ATOM   1211  CA  SER A 163      66.767  21.897  16.360  1.00  0.80           C
ATOM   1212  C   SER A 163      66.509  22.829  17.552  1.00  0.80           C
ATOM   1213  O   SER A 163      65.760  22.488  18.465  1.00  0.80           O
ATOM   1214  CB  SER A 163      67.573  20.680  16.819  1.00  0.80           C
ATOM   1215  OG  SER A 163      68.861  21.086  17.290  1.00  0.80           O
ATOM   1216  N   SER A 164      67.195  23.970  17.562  1.00  0.81           N
ATOM   1217  CA  SER A 164      67.038  25.008  18.596  1.00  0.81           C
ATOM   1218  C   SER A 164      65.802  25.906  18.411  1.00  0.81           C
ATOM   1219  O   SER A 164      65.426  26.630  19.330  1.00  0.81           O
ATOM   1220  CB  SER A 164      68.296  25.877  18.686  1.00  0.81           C
ATOM   1221  OG  SER A 164      68.568  26.518  17.437  1.00  0.81           O
ATOM   1222  N   VAL A 165      65.221  25.889  17.210  1.00  0.85           N
ATOM   1223  CA  VAL A 165      64.064  26.743  16.868  1.00  0.85           C
ATOM   1224  C   VAL A 165      62.787  26.169  17.504  1.00  0.85           C
ATOM   1225  O   VAL A 165      62.440  25.009  17.312  1.00  0.85           O
ATOM   1226  CB  VAL A 165      63.910  26.874  15.339  1.00  0.85           C
ATOM   1227  CG1 VAL A 165      62.695  27.720  14.934  1.00  0.85           C
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ATOM   1228  CG2 VAL A 165      65.157  27.499  14.704  1.00  0.85           C
ATOM   1229  N   THR A 166      62.055  27.066  18.150  1.00  0.84           N
ATOM   1230  CA  THR A 166      60.741  26.732  18.742  1.00  0.84           C
ATOM   1231  C   THR A 166      59.597  27.590  18.182  1.00  0.84           C
ATOM   1232  O   THR A 166      58.428  27.357  18.472  1.00  0.84           O
ATOM   1233  CB  THR A 166      60.774  26.831  20.272  1.00  0.84           C
ATOM   1234  CG2 THR A 166      61.802  25.871  20.884  1.00  0.84           C
ATOM   1235  OG1 THR A 166      61.057  28.179  20.656  1.00  0.84           O
ATOM   1236  N   VAL A 167      59.975  28.605  17.398  1.00  0.87           N
ATOM   1237  CA  VAL A 167      59.038  29.494  16.694  1.00  0.87           C
ATOM   1238  C   VAL A 167      58.284  28.659  15.639  1.00  0.87           C
ATOM   1239  O   VAL A 167      58.918  27.866  14.941  1.00  0.87           O
ATOM   1240  CB  VAL A 167      59.804  30.667  16.045  1.00  0.87           C
ATOM   1241  CG1 VAL A 167      58.880  31.623  15.285  1.00  0.87           C
ATOM   1242  CG2 VAL A 167      60.555  31.487  17.097  1.00  0.87           C
ATOM   1243  N   PRO A 168      56.959  28.846  15.545  1.00  0.90           N
ATOM   1244  CA  PRO A 168      56.124  28.233  14.497  1.00  0.90           C
ATOM   1245  C   PRO A 168      56.684  28.594  13.114  1.00  0.90           C
ATOM   1246  O   PRO A 168      56.675  29.747  12.688  1.00  0.90           O
ATOM   1247  CB  PRO A 168      54.742  28.847  14.709  1.00  0.90           C
ATOM   1248  CG  PRO A 168      54.696  29.084  16.216  1.00  0.90           C
ATOM   1249  CD  PRO A 168      56.117  29.535  16.543  1.00  0.90           C
ATOM   1250  N   THR A 169      57.196  27.564  12.443  1.00  0.91           N
ATOM   1251  CA  THR A 169      57.940  27.750  11.184  1.00  0.91           C
ATOM   1252  C   THR A 169      57.271  27.008  10.022  1.00  0.91           C
ATOM   1253  O   THR A 169      57.093  25.793  10.036  1.00  0.91           O
ATOM   1254  CB  THR A 169      59.416  27.331  11.356  1.00  0.91           C
ATOM   1255  CG2 THR A 169      60.247  27.464  10.078  1.00  0.91           C
ATOM   1256  OG1 THR A 169      60.026  28.173  12.334  1.00  0.91           O
ATOM   1257  N   LEU A 170      57.043  27.794   8.975  1.00  0.92           N
ATOM   1258  CA  LEU A 170      56.589  27.292   7.672  1.00  0.92           C
ATOM   1259  C   LEU A 170      57.707  27.490   6.639  1.00  0.92           C
ATOM   1260  O   LEU A 170      58.030  28.605   6.245  1.00  0.92           O
ATOM   1261  CB  LEU A 170      55.308  28.018   7.232  1.00  0.92           C
ATOM   1262  CG  LEU A 170      54.906  27.739   5.776  1.00  0.92           C
ATOM   1263  CD1 LEU A 170      54.578  26.263   5.526  1.00  0.92           C
ATOM   1264  CD2 LEU A 170      53.740  28.637   5.367  1.00  0.92           C
ATOM   1265  N   ILE A 171      58.279  26.362   6.226  1.00  0.88           N
ATOM   1266  CA  ILE A 171      59.297  26.360   5.160  1.00  0.88           C
ATOM   1267  C   ILE A 171      58.595  26.063   3.825  1.00  0.88           C
ATOM   1268  O   ILE A 171      57.948  25.032   3.652  1.00  0.88           O
ATOM   1269  CB  ILE A 171      60.421  25.345   5.458  1.00  0.88           C
ATOM   1270  CG1 ILE A 171      61.140  25.725   6.763  1.00  0.88           C
ATOM   1271  CG2 ILE A 171      61.417  25.248   4.285  1.00  0.88           C
ATOM   1272  CD1 ILE A 171      62.158  24.693   7.260  1.00  0.88           C
ATOM   1273  N   ILE A 172      58.873  26.940   2.866  1.00  0.86           N
ATOM   1274  CA  ILE A 172      58.403  26.755   1.482  1.00  0.86           C
ATOM   1275  C   ILE A 172      59.627  26.485   0.597  1.00  0.86           C
ATOM   1276  O   ILE A 172      60.485  27.347   0.420  1.00  0.86           O
ATOM   1277  CB  ILE A 172      57.570  27.956   0.982  1.00  0.86           C
ATOM   1278  CG1 ILE A 172      56.338  28.164   1.884  1.00  0.86           C
ATOM   1279  CG2 ILE A 172      57.160  27.752  -0.488  1.00  0.86           C
ATOM   1280  CD1 ILE A 172      55.462  29.381   1.548  1.00  0.86           C
ATOM   1281  N   GLY A 173      59.624  25.287   0.013  1.00  0.88           N
ATOM   1282  CA  GLY A 173      60.673  24.850  -0.925  1.00  0.88           C
ATOM   1283  C   GLY A 173      60.145  24.845  -2.364  1.00  0.88           C
ATOM   1284  O   GLY A 173      58.945  24.839  -2.620  1.00  0.88           O
ATOM   1285  N   ALA A 174      61.090  24.890  -3.297  1.00  0.81           N
ATOM   1286  CA  ALA A 174      60.792  24.813  -4.737  1.00  0.81           C
ATOM   1287  C   ALA A 174      61.480  23.567  -5.301  1.00  0.81           C
ATOM   1288  O   ALA A 174      62.691  23.423  -5.230  1.00  0.81           O
ATOM   1289  CB  ALA A 174      61.310  26.068  -5.441  1.00  0.81           C
ATOM   1290  N   ASP A 175      60.656  22.677  -5.859  1.00  0.71           N
ATOM   1291  CA  ASP A 175      61.125  21.378  -6.389  1.00  0.71           C
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ATOM   1292  C   ASP A 175      62.296  21.455  -7.387  1.00  0.71           C
ATOM   1293  O   ASP A 175      63.208  20.637  -7.312  1.00  0.71           O
ATOM   1294  CB  ASP A 175      59.950  20.613  -7.014  1.00  0.71           C
ATOM   1295  CG  ASP A 175      59.309  21.290  -8.232  1.00  0.71           C
ATOM   1296  OD1 ASP A 175      59.431  22.532  -8.371  1.00  0.71           O
ATOM   1297  OD2 ASP A 175      58.629  20.574  -8.990  1.00  0.71           O1-
ATOM   1298  N   LEU A 176      62.331  22.507  -8.206  1.00  0.67           N
ATOM   1299  CA  LEU A 176      63.372  22.658  -9.243  1.00  0.67           C
ATOM   1300  C   LEU A 176      64.476  23.644  -8.851  1.00  0.67           C
ATOM   1301  O   LEU A 176      65.283  24.080  -9.672  1.00  0.67           O
ATOM   1302  CB  LEU A 176      62.734  23.112 -10.564  1.00  0.67           C
ATOM   1303  CG  LEU A 176      61.652  22.171 -11.102  1.00  0.67           C
ATOM   1304  CD1 LEU A 176      61.129  22.725 -12.427  1.00  0.67           C
ATOM   1305  CD2 LEU A 176      62.161  20.736 -11.286  1.00  0.67           C
ATOM   1306  N   ASP A 177      64.543  23.948  -7.554  1.00  0.74           N
ATOM   1307  CA  ASP A 177      65.549  24.869  -7.021  1.00  0.74           C
ATOM   1308  C   ASP A 177      66.945  24.238  -7.182  1.00  0.74           C
ATOM   1309  O   ASP A 177      67.236  23.206  -6.586  1.00  0.74           O
ATOM   1310  CB  ASP A 177      65.242  25.134  -5.546  1.00  0.74           C
ATOM   1311  CG  ASP A 177      66.002  26.337  -4.996  1.00  0.74           C
ATOM   1312  OD1 ASP A 177      67.103  26.637  -5.517  1.00  0.74           O
ATOM   1313  OD2 ASP A 177      65.438  27.008  -4.112  1.00  0.74           O1-
ATOM   1314  N   THR A 178      67.796  24.965  -7.895  1.00  0.72           N
ATOM   1315  CA  THR A 178      69.187  24.532  -8.162  1.00  0.72           C
ATOM   1316  C   THR A 178      70.224  25.369  -7.393  1.00  0.72           C
ATOM   1317  O   THR A 178      71.408  25.050  -7.388  1.00  0.72           O
ATOM   1318  CB  THR A 178      69.498  24.614  -9.662  1.00  0.72           C
ATOM   1319  CG2 THR A 178      68.625  23.660 -10.486  1.00  0.72           C
ATOM   1320  OG1 THR A 178      69.325  25.964 -10.108  1.00  0.72           O
ATOM   1321  N   ILE A 179      69.740  26.411  -6.718  1.00  0.74           N
ATOM   1322  CA  ILE A 179      70.570  27.346  -5.930  1.00  0.74           C
ATOM   1323  C   ILE A 179      70.572  26.926  -4.448  1.00  0.74           C
ATOM   1324  O   ILE A 179      71.613  26.898  -3.796  1.00  0.74           O
ATOM   1325  CB  ILE A 179      70.067  28.791  -6.140  1.00  0.74           C
ATOM   1326  CG1 ILE A 179      70.221  29.175  -7.623  1.00  0.74           C
ATOM   1327  CG2 ILE A 179      70.798  29.784  -5.217  1.00  0.74           C
ATOM   1328  CD1 ILE A 179      69.613  30.524  -8.021  1.00  0.74           C
ATOM   1329  N   ALA A 180      69.374  26.699  -3.923  1.00  0.82           N
ATOM   1330  CA  ALA A 180      69.165  26.133  -2.580  1.00  0.82           C
ATOM   1331  C   ALA A 180      68.286  24.874  -2.717  1.00  0.82           C
ATOM   1332  O   ALA A 180      67.088  24.905  -2.442  1.00  0.82           O
ATOM   1333  CB  ALA A 180      68.531  27.195  -1.674  1.00  0.82           C
ATOM   1334  N   PRO A 181      68.868  23.777  -3.253  1.00  0.75           N
ATOM   1335  CA  PRO A 181      68.121  22.536  -3.518  1.00  0.75           C
ATOM   1336  C   PRO A 181      67.425  22.101  -2.227  1.00  0.75           C
ATOM   1337  O   PRO A 181      68.032  22.079  -1.163  1.00  0.75           O
ATOM   1338  CB  PRO A 181      69.191  21.510  -3.899  1.00  0.75           C
ATOM   1339  CG  PRO A 181      70.276  22.370  -4.540  1.00  0.75           C
ATOM   1340  CD  PRO A 181      70.273  23.626  -3.668  1.00  0.75           C
ATOM   1341  N   VAL A 182      66.157  21.712  -2.384  1.00  0.76           N
ATOM   1342  CA  VAL A 182      65.325  21.239  -1.255  1.00  0.76           C
ATOM   1343  C   VAL A 182      65.948  20.042  -0.522  1.00  0.76           C
ATOM   1344  O   VAL A 182      65.890  19.983   0.707  1.00  0.76           O
ATOM   1345  CB  VAL A 182      63.888  20.903  -1.702  1.00  0.76           C
ATOM   1346  CG1 VAL A 182      63.172  22.156  -2.210  1.00  0.76           C
ATOM   1347  CG2 VAL A 182      63.821  19.795  -2.761  1.00  0.76           C
ATOM   1348  N   ALA A 183      66.708  19.248  -1.267  1.00  0.71           N
ATOM   1349  CA  ALA A 183      67.395  18.045  -0.761  1.00  0.71           C
ATOM   1350  C   ALA A 183      68.531  18.368   0.222  1.00  0.71           C
ATOM   1351  O   ALA A 183      68.804  17.595   1.137  1.00  0.71           O
ATOM   1352  CB  ALA A 183      67.946  17.247  -1.944  1.00  0.71           C
ATOM   1353  N   THR A 184      69.119  19.543   0.053  1.00  0.71           N
ATOM   1354  CA  THR A 184      70.309  19.969   0.826  1.00  0.71           C
ATOM   1355  C   THR A 184      70.070  21.178   1.738  1.00  0.71           C
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ATOM   1356  O   THR A 184      70.920  21.505   2.558  1.00  0.71           O
ATOM   1357  CB  THR A 184      71.510  20.219  -0.098  1.00  0.71           C
ATOM   1358  CG2 THR A 184      71.988  18.917  -0.753  1.00  0.71           C
ATOM   1359  OG1 THR A 184      71.176  21.220  -1.072  1.00  0.71           O
ATOM   1360  N   HIS A 185      68.967  21.888   1.525  1.00  0.77           N
ATOM   1361  CA  HIS A 185      68.600  23.073   2.325  1.00  0.77           C
ATOM   1362  C   HIS A 185      67.245  22.930   3.029  1.00  0.77           C
ATOM   1363  O   HIS A 185      67.181  22.441   4.156  1.00  0.77           O
ATOM   1364  CB  HIS A 185      68.660  24.335   1.456  1.00  0.77           C
ATOM   1365  CG  HIS A 185      70.101  24.713   1.127  1.00  0.77           C
ATOM   1366  CD2 HIS A 185      70.829  25.602   1.790  1.00  0.77           C
ATOM   1367  ND1 HIS A 185      70.829  24.256   0.114  1.00  0.77           N
ATOM   1368  CE1 HIS A 185      72.008  24.869   0.149  1.00  0.77           C
ATOM   1369  NE2 HIS A 185      72.003  25.710   1.180  1.00  0.77           N
ATOM   1370  N   ALA A 186      66.167  23.167   2.280  1.00  0.86           N
ATOM   1371  CA  ALA A 186      64.791  23.209   2.810  1.00  0.86           C
ATOM   1372  C   ALA A 186      64.365  21.974   3.628  1.00  0.86           C
ATOM   1373  O   ALA A 186      63.990  22.108   4.787  1.00  0.86           O
ATOM   1374  CB  ALA A 186      63.812  23.440   1.657  1.00  0.86           C
ATOM   1375  N   LYS A 187      64.589  20.781   3.074  1.00  0.76           N
ATOM   1376  CA  LYS A 187      64.202  19.523   3.748  1.00  0.76           C
ATOM   1377  C   LYS A 187      65.068  19.203   4.981  1.00  0.76           C
ATOM   1378  O   LYS A 187      64.486  18.930   6.029  1.00  0.76           O
ATOM   1379  CB  LYS A 187      64.170  18.325   2.793  1.00  0.76           C
ATOM   1380  CG  LYS A 187      63.070  18.473   1.748  1.00  0.76           C
ATOM   1381  CD  LYS A 187      63.083  17.272   0.809  1.00  0.76           C
ATOM   1382  CE  LYS A 187      61.915  17.382  -0.165  1.00  0.76           C
ATOM   1383  NZ  LYS A 187      61.923  16.273  -1.124  1.00  0.76           N1+
ATOM   1384  N   PRO A 188      66.410  19.342   4.909  1.00  0.80           N
ATOM   1385  CA  PRO A 188      67.289  19.217   6.088  1.00  0.80           C
ATOM   1386  C   PRO A 188      66.898  20.179   7.217  1.00  0.80           C
ATOM   1387  O   PRO A 188      66.843  19.760   8.369  1.00  0.80           O
ATOM   1388  CB  PRO A 188      68.689  19.546   5.571  1.00  0.80           C
ATOM   1389  CG  PRO A 188      68.646  19.018   4.144  1.00  0.80           C
ATOM   1390  CD  PRO A 188      67.241  19.394   3.687  1.00  0.80           C
ATOM   1391  N   PHE A 189      66.457  21.384   6.849  1.00  0.81           N
ATOM   1392  CA  PHE A 189      65.992  22.390   7.828  1.00  0.81           C
ATOM   1393  C   PHE A 189      64.706  21.954   8.530  1.00  0.81           C
ATOM   1394  O   PHE A 189      64.645  21.909   9.758  1.00  0.81           O
ATOM   1395  CB  PHE A 189      65.719  23.744   7.166  1.00  0.81           C
ATOM   1396  CG  PHE A 189      66.902  24.368   6.426  1.00  0.81           C
ATOM   1397  CD1 PHE A 189      68.218  24.060   6.749  1.00  0.81           C
ATOM   1398  CD2 PHE A 189      66.626  25.302   5.438  1.00  0.81           C
ATOM   1399  CE1 PHE A 189      69.256  24.685   6.075  1.00  0.81           C
ATOM   1400  CE2 PHE A 189      67.668  25.928   4.765  1.00  0.81           C
ATOM   1401  CZ  PHE A 189      68.982  25.617   5.086  1.00  0.81           C
ATOM   1402  N   TYR A 190      63.751  21.495   7.725  1.00  0.85           N
ATOM   1403  CA  TYR A 190      62.440  21.055   8.232  1.00  0.85           C
ATOM   1404  C   TYR A 190      62.572  19.836   9.150  1.00  0.85           C
ATOM   1405  O   TYR A 190      61.975  19.803  10.223  1.00  0.85           O
ATOM   1406  CB  TYR A 190      61.488  20.746   7.073  1.00  0.85           C
ATOM   1407  CG  TYR A 190      60.129  20.288   7.609  1.00  0.85           C
ATOM   1408  CD1 TYR A 190      59.245  21.224   8.126  1.00  0.85           C
ATOM   1409  CD2 TYR A 190      59.815  18.933   7.652  1.00  0.85           C
ATOM   1410  CE1 TYR A 190      58.046  20.805   8.680  1.00  0.85           C
ATOM   1411  CE2 TYR A 190      58.613  18.513   8.207  1.00  0.85           C
ATOM   1412  CZ  TYR A 190      57.727  19.454   8.716  1.00  0.85           C
ATOM   1413  OH  TYR A 190      56.510  19.068   9.176  1.00  0.85           O
ATOM   1414  N   ASN A 191      63.432  18.912   8.747  1.00  0.80           N
ATOM   1415  CA  ASN A 191      63.659  17.662   9.490  1.00  0.80           C
ATOM   1416  C   ASN A 191      64.411  17.860  10.812  1.00  0.80           C
ATOM   1417  O   ASN A 191      64.247  17.062  11.732  1.00  0.80           O
ATOM   1418  CB  ASN A 191      64.354  16.633   8.596  1.00  0.80           C
ATOM   1419  CG  ASN A 191      63.409  16.124   7.501  1.00  0.80           C
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ATOM   1420  ND2 ASN A 191      63.970  15.786   6.362  1.00  0.80           N
ATOM   1421  OD1 ASN A 191      62.201  16.014   7.647  1.00  0.80           O
ATOM   1422  N   SER A 192      65.232  18.908  10.874  1.00  0.83           N
ATOM   1423  CA  SER A 192      66.000  19.227  12.091  1.00  0.83           C
ATOM   1424  C   SER A 192      65.207  20.081  13.085  1.00  0.83           C
ATOM   1425  O   SER A 192      65.520  20.068  14.274  1.00  0.83           O
ATOM   1426  CB  SER A 192      67.348  19.882  11.781  1.00  0.83           C
ATOM   1427  OG  SER A 192      67.189  21.203  11.261  1.00  0.83           O
ATOM   1428  N   LEU A 193      64.191  20.798  12.597  1.00  0.80           N
ATOM   1429  CA  LEU A 193      63.229  21.477  13.479  1.00  0.80           C
ATOM   1430  C   LEU A 193      62.614  20.429  14.420  1.00  0.80           C
ATOM   1431  O   LEU A 193      62.400  19.291  14.013  1.00  0.80           O
ATOM   1432  CB  LEU A 193      62.104  22.139  12.678  1.00  0.80           C
ATOM   1433  CG  LEU A 193      62.557  23.324  11.821  1.00  0.80           C
ATOM   1434  CD1 LEU A 193      61.377  23.802  10.977  1.00  0.80           C
ATOM   1435  CD2 LEU A 193      63.068  24.480  12.684  1.00  0.80           C
ATOM   1436  N   PRO A 194      62.437  20.782  15.703  1.00  0.80           N
ATOM   1437  CA  PRO A 194      61.880  19.849  16.696  1.00  0.80           C
ATOM   1438  C   PRO A 194      60.535  19.323  16.188  1.00  0.80           C
ATOM   1439  O   PRO A 194      59.753  20.059  15.590  1.00  0.80           O
ATOM   1440  CB  PRO A 194      61.671  20.707  17.944  1.00  0.80           C
ATOM   1441  CG  PRO A 194      62.756  21.773  17.823  1.00  0.80           C
ATOM   1442  CD  PRO A 194      62.818  22.059  16.323  1.00  0.80           C
ATOM   1443  N   SER A 195      60.289  18.045  16.448  1.00  0.78           N
ATOM   1444  CA  SER A 195      58.982  17.421  16.139  1.00  0.78           C
ATOM   1445  C   SER A 195      57.855  18.020  16.993  1.00  0.78           C
ATOM   1446  O   SER A 195      56.685  17.999  16.613  1.00  0.78           O
ATOM   1447  CB  SER A 195      59.031  15.908  16.374  1.00  0.78           C
ATOM   1448  OG  SER A 195      59.358  15.629  17.740  1.00  0.78           O
ATOM   1449  N   SER A 196      58.246  18.532  18.159  1.00  0.76           N
ATOM   1450  CA  SER A 196      57.345  19.095  19.178  1.00  0.76           C
ATOM   1451  C   SER A 196      56.737  20.464  18.837  1.00  0.76           C
ATOM   1452  O   SER A 196      55.753  20.860  19.459  1.00  0.76           O
ATOM   1453  CB  SER A 196      58.055  19.170  20.535  1.00  0.76           C
ATOM   1454  OG  SER A 196      59.246  19.960  20.443  1.00  0.76           O
ATOM   1455  N   ILE A 197      57.356  21.191  17.908  1.00  0.75           N
ATOM   1456  CA  ILE A 197      56.910  22.555  17.554  1.00  0.75           C
ATOM   1457  C   ILE A 197      55.837  22.533  16.448  1.00  0.75           C
ATOM   1458  O   ILE A 197      55.652  21.557  15.727  1.00  0.75           O
ATOM   1459  CB  ILE A 197      58.086  23.472  17.150  1.00  0.75           C
ATOM   1460  CG1 ILE A 197      58.682  23.097  15.782  1.00  0.75           C
ATOM   1461  CG2 ILE A 197      59.150  23.488  18.260  1.00  0.75           C
ATOM   1462  CD1 ILE A 197      59.573  24.185  15.169  1.00  0.75           C
ATOM   1463  N   SER A 198      55.158  23.671  16.327  1.00  0.85           N
ATOM   1464  CA  SER A 198      54.277  23.965  15.180  1.00  0.85           C
ATOM   1465  C   SER A 198      55.132  24.273  13.943  1.00  0.85           C
ATOM   1466  O   SER A 198      55.862  25.256  13.900  1.00  0.85           O
ATOM   1467  CB  SER A 198      53.398  25.184  15.461  1.00  0.85           C
ATOM   1468  OG  SER A 198      52.568  24.945  16.597  1.00  0.85           O
ATOM   1469  N   LYS A 199      55.129  23.328  13.006  1.00  0.83           N
ATOM   1470  CA  LYS A 199      55.900  23.474  11.758  1.00  0.83           C
ATOM   1471  C   LYS A 199      55.176  22.809  10.579  1.00  0.83           C
ATOM   1472  O   LYS A 199      54.292  21.982  10.756  1.00  0.83           O
ATOM   1473  CB  LYS A 199      57.320  22.914  11.913  1.00  0.83           C
ATOM   1474  CG  LYS A 199      57.340  21.406  12.174  1.00  0.83           C
ATOM   1475  CD  LYS A 199      58.769  20.883  12.179  1.00  0.83           C
ATOM   1476  CE  LYS A 199      58.782  19.363  12.307  1.00  0.83           C
ATOM   1477  NZ  LYS A 199      60.164  18.876  12.265  1.00  0.83           N1+
ATOM   1478  N   ALA A 200      55.539  23.300   9.391  1.00  0.93           N
ATOM   1479  CA  ALA A 200      55.032  22.761   8.122  1.00  0.93           C
ATOM   1480  C   ALA A 200      56.057  22.978   6.999  1.00  0.93           C
ATOM   1481  O   ALA A 200      56.860  23.902   7.016  1.00  0.93           O
ATOM   1482  CB  ALA A 200      53.700  23.428   7.765  1.00  0.93           C
ATOM   1483  N   TYR A 201      56.048  22.010   6.082  1.00  0.88           N
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ATOM   1484  CA  TYR A 201      56.856  22.061   4.859  1.00  0.88           C
ATOM   1485  C   TYR A 201      55.923  21.991   3.649  1.00  0.88           C
ATOM   1486  O   TYR A 201      55.190  21.027   3.463  1.00  0.88           O
ATOM   1487  CB  TYR A 201      57.856  20.899   4.827  1.00  0.88           C
ATOM   1488  CG  TYR A 201      58.693  20.903   3.544  1.00  0.88           C
ATOM   1489  CD1 TYR A 201      59.510  21.987   3.246  1.00  0.88           C
ATOM   1490  CD2 TYR A 201      58.583  19.848   2.648  1.00  0.88           C
ATOM   1491  CE1 TYR A 201      60.218  22.016   2.053  1.00  0.88           C
ATOM   1492  CE2 TYR A 201      59.299  19.870   1.458  1.00  0.88           C
ATOM   1493  CZ  TYR A 201      60.114  20.957   1.163  1.00  0.88           C
ATOM   1494  OH  TYR A 201      60.792  20.999  -0.013  1.00  0.88           O
ATOM   1495  N   LEU A 202      56.007  23.041   2.837  1.00  0.85           N
ATOM   1496  CA  LEU A 202      55.242  23.117   1.587  1.00  0.85           C
ATOM   1497  C   LEU A 202      56.246  23.264   0.440  1.00  0.85           C
ATOM   1498  O   LEU A 202      56.929  24.271   0.295  1.00  0.85           O
ATOM   1499  CB  LEU A 202      54.261  24.299   1.648  1.00  0.85           C
ATOM   1500  CG  LEU A 202      53.218  24.316   0.519  1.00  0.85           C
ATOM   1501  CD1 LEU A 202      52.118  25.312   0.871  1.00  0.85           C
ATOM   1502  CD2 LEU A 202      53.802  24.742  -0.831  1.00  0.85           C
ATOM   1503  N   GLU A 203      56.266  22.237  -0.403  1.00  0.78           N
ATOM   1504  CA  GLU A 203      57.110  22.263  -1.605  1.00  0.78           C
ATOM   1505  C   GLU A 203      56.245  22.557  -2.834  1.00  0.78           C
ATOM   1506  O   GLU A 203      55.358  21.792  -3.193  1.00  0.78           O
ATOM   1507  CB  GLU A 203      57.839  20.930  -1.757  1.00  0.78           C
ATOM   1508  CG  GLU A 203      58.814  20.941  -2.939  1.00  0.78           C
ATOM   1509  CD  GLU A 203      59.624  19.648  -3.014  1.00  0.78           C
ATOM   1510  OE1 GLU A 203      60.098  19.205  -1.945  1.00  0.78           O
ATOM   1511  OE2 GLU A 203      59.838  19.193  -4.158  1.00  0.78           O1-
ATOM   1512  N   LEU A 204      56.590  23.662  -3.480  1.00  0.72           N
ATOM   1513  CA  LEU A 204      55.948  24.092  -4.732  1.00  0.72           C
ATOM   1514  C   LEU A 204      56.317  23.148  -5.881  1.00  0.72           C
ATOM   1515  O   LEU A 204      57.447  22.676  -5.996  1.00  0.72           O
ATOM   1516  CB  LEU A 204      56.405  25.513  -5.067  1.00  0.72           C
ATOM   1517  CG  LEU A 204      56.058  26.537  -3.985  1.00  0.72           C
ATOM   1518  CD1 LEU A 204      56.710  27.875  -4.326  1.00  0.72           C
ATOM   1519  CD2 LEU A 204      54.547  26.722  -3.872  1.00  0.72           C
ATOM   1520  N   ASP A 205      55.312  22.910  -6.724  1.00  0.65           N
ATOM   1521  CA  ASP A 205      55.490  22.070  -7.915  1.00  0.65           C
ATOM   1522  C   ASP A 205      55.751  22.956  -9.142  1.00  0.65           C
ATOM   1523  O   ASP A 205      55.037  23.929  -9.365  1.00  0.65           O
ATOM   1524  CB  ASP A 205      54.239  21.209  -8.112  1.00  0.65           C
ATOM   1525  CG  ASP A 205      54.394  20.183  -9.239  1.00  0.65           C
ATOM   1526  OD1 ASP A 205      55.550  19.808  -9.536  1.00  0.65           O
ATOM   1527  OD2 ASP A 205      53.337  19.770  -9.755  1.00  0.65           O1-
ATOM   1528  N   GLY A 206      56.808  22.595  -9.876  1.00  0.69           N
ATOM   1529  CA  GLY A 206      57.246  23.331 -11.080  1.00  0.69           C
ATOM   1530  C   GLY A 206      57.693  24.763 -10.749  1.00  0.69           C
ATOM   1531  O   GLY A 206      57.322  25.721 -11.421  1.00  0.69           O
ATOM   1532  N   ALA A 207      58.480  24.877  -9.685  1.00  0.74           N
ATOM   1533  CA  ALA A 207      58.977  26.173  -9.200  1.00  0.74           C
ATOM   1534  C   ALA A 207      60.505  26.175  -9.137  1.00  0.74           C
ATOM   1535  O   ALA A 207      61.136  25.213  -8.713  1.00  0.74           O
ATOM   1536  CB  ALA A 207      58.407  26.446  -7.812  1.00  0.74           C
ATOM   1537  N   THR A 208      61.049  27.328  -9.527  1.00  0.76           N
ATOM   1538  CA  THR A 208      62.500  27.574  -9.442  1.00  0.76           C
ATOM   1539  C   THR A 208      62.807  28.257  -8.100  1.00  0.76           C
ATOM   1540  O   THR A 208      61.910  28.654  -7.351  1.00  0.76           O
ATOM   1541  CB  THR A 208      62.994  28.464 -10.600  1.00  0.76           C
ATOM   1542  CG2 THR A 208      62.612  27.900 -11.976  1.00  0.76           C
ATOM   1543  OG1 THR A 208      62.536  29.810 -10.417  1.00  0.76           O
ATOM   1544  N   HIS A 209      64.089  28.542  -7.897  1.00  0.78           N
ATOM   1545  CA  HIS A 209      64.570  29.302  -6.729  1.00  0.78           C
ATOM   1546  C   HIS A 209      63.931  30.699  -6.589  1.00  0.78           C
ATOM   1547  O   HIS A 209      63.794  31.191  -5.470  1.00  0.78           O
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ATOM   1548  CB  HIS A 209      66.090  29.440  -6.817  1.00  0.78           C
ATOM   1549  CG  HIS A 209      66.651  30.050  -5.531  1.00  0.78           C
ATOM   1550  CD2 HIS A 209      67.210  31.250  -5.408  1.00  0.78           C
ATOM   1551  ND1 HIS A 209      66.688  29.454  -4.347  1.00  0.78           N
ATOM   1552  CE1 HIS A 209      67.286  30.265  -3.494  1.00  0.78           C
ATOM   1553  NE2 HIS A 209      67.615  31.377  -4.150  1.00  0.78           N
ATOM   1554  N   PHE A 210      63.448  31.238  -7.710  1.00  0.79           N
ATOM   1555  CA  PHE A 210      62.918  32.610  -7.786  1.00  0.79           C
ATOM   1556  C   PHE A 210      61.383  32.688  -7.801  1.00  0.79           C
ATOM   1557  O   PHE A 210      60.818  33.766  -7.920  1.00  0.79           O
ATOM   1558  CB  PHE A 210      63.459  33.298  -9.043  1.00  0.79           C
ATOM   1559  CG  PHE A 210      64.986  33.299  -9.062  1.00  0.79           C
ATOM   1560  CD1 PHE A 210      65.685  34.208  -8.281  1.00  0.79           C
ATOM   1561  CD2 PHE A 210      65.664  32.369  -9.839  1.00  0.79           C
ATOM   1562  CE1 PHE A 210      67.071  34.186  -8.270  1.00  0.79           C
ATOM   1563  CE2 PHE A 210      67.052  32.352  -9.833  1.00  0.79           C
ATOM   1564  CZ  PHE A 210      67.753  33.261  -9.049  1.00  0.79           C
ATOM   1565  N   ALA A 211      60.731  31.571  -7.445  1.00  0.82           N
ATOM   1566  CA  ALA A 211      59.267  31.540  -7.258  1.00  0.82           C
ATOM   1567  C   ALA A 211      58.779  32.567  -6.207  1.00  0.82           C
ATOM   1568  O   ALA A 211      57.830  33.282  -6.505  1.00  0.82           O
ATOM   1569  CB  ALA A 211      58.795  30.129  -6.884  1.00  0.82           C
ATOM   1570  N   PRO A 212      59.499  32.752  -5.071  1.00  0.88           N
ATOM   1571  CA  PRO A 212      59.172  33.778  -4.060  1.00  0.88           C
ATOM   1572  C   PRO A 212      59.224  35.223  -4.571  1.00  0.88           C
ATOM   1573  O   PRO A 212      58.628  36.104  -3.963  1.00  0.88           O
ATOM   1574  CB  PRO A 212      60.209  33.596  -2.952  1.00  0.88           C
ATOM   1575  CG  PRO A 212      60.529  32.110  -3.026  1.00  0.88           C
ATOM   1576  CD  PRO A 212      60.557  31.875  -4.529  1.00  0.88           C
ATOM   1577  N   ASN A 213      59.949  35.453  -5.665  1.00  0.82           N
ATOM   1578  CA  ASN A 213      60.115  36.798  -6.255  1.00  0.82           C
ATOM   1579  C   ASN A 213      59.047  37.133  -7.303  1.00  0.82           C
ATOM   1580  O   ASN A 213      59.006  38.238  -7.837  1.00  0.82           O
ATOM   1581  CB  ASN A 213      61.500  36.895  -6.905  1.00  0.82           C
ATOM   1582  CG  ASN A 213      62.629  36.594  -5.920  1.00  0.82           C
ATOM   1583  ND2 ASN A 213      62.520  37.088  -4.704  1.00  0.82           N
ATOM   1584  OD1 ASN A 213      63.543  35.844  -6.224  1.00  0.82           O
ATOM   1585  N   ILE A 214      58.204  36.144  -7.584  1.00  0.77           N
ATOM   1586  CA  ILE A 214      57.175  36.228  -8.628  1.00  0.77           C
ATOM   1587  C   ILE A 214      55.824  36.026  -7.921  1.00  0.77           C
ATOM   1588  O   ILE A 214      55.651  34.992  -7.283  1.00  0.77           O
ATOM   1589  CB  ILE A 214      57.424  35.140  -9.692  1.00  0.77           C
ATOM   1590  CG1 ILE A 214      58.849  35.255 -10.263  1.00  0.77           C
ATOM   1591  CG2 ILE A 214      56.377  35.246 -10.816  1.00  0.77           C
ATOM   1592  CD1 ILE A 214      59.296  34.053 -11.104  1.00  0.77           C
ATOM   1593  N   PRO A 215      54.888  36.985  -8.083  1.00  0.82           N
ATOM   1594  CA  PRO A 215      53.542  36.930  -7.480  1.00  0.82           C
ATOM   1595  C   PRO A 215      52.936  35.534  -7.665  1.00  0.82           C
ATOM   1596  O   PRO A 215      52.891  34.996  -8.768  1.00  0.82           O
ATOM   1597  CB  PRO A 215      52.742  37.979  -8.252  1.00  0.82           C
ATOM   1598  CG  PRO A 215      53.793  39.039  -8.570  1.00  0.82           C
ATOM   1599  CD  PRO A 215      55.046  38.219  -8.876  1.00  0.82           C
ATOM   1600  N   ASN A 216      52.692  34.907  -6.519  1.00  0.80           N
ATOM   1601  CA  ASN A 216      52.347  33.479  -6.446  1.00  0.80           C
ATOM   1602  C   ASN A 216      51.210  33.299  -5.435  1.00  0.80           C
ATOM   1603  O   ASN A 216      51.390  33.550  -4.247  1.00  0.80           O
ATOM   1604  CB  ASN A 216      53.610  32.723  -6.014  1.00  0.80           C
ATOM   1605  CG  ASN A 216      53.444  31.203  -6.007  1.00  0.80           C
ATOM   1606  ND2 ASN A 216      54.354  30.532  -6.675  1.00  0.80           N
ATOM   1607  OD1 ASN A 216      52.569  30.633  -5.367  1.00  0.80           O
ATOM   1608  N   LYS A 217      50.097  32.753  -5.923  1.00  0.76           N
ATOM   1609  CA  LYS A 217      48.887  32.604  -5.088  1.00  0.76           C
ATOM   1610  C   LYS A 217      49.052  31.580  -3.951  1.00  0.76           C
ATOM   1611  O   LYS A 217      48.477  31.743  -2.880  1.00  0.76           O
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ATOM   1612  CB  LYS A 217      47.645  32.296  -5.934  1.00  0.76           C
ATOM   1613  CG  LYS A 217      47.650  30.899  -6.556  1.00  0.76           C
ATOM   1614  CD  LYS A 217      46.347  30.645  -7.312  1.00  0.76           C
ATOM   1615  CE  LYS A 217      46.234  29.182  -7.742  1.00  0.76           C
ATOM   1616  NZ  LYS A 217      46.124  28.290  -6.578  1.00  0.76           N1+
ATOM   1617  N   ILE A 218      49.876  30.557  -4.179  1.00  0.80           N
ATOM   1618  CA  ILE A 218      50.150  29.513  -3.171  1.00  0.80           C
ATOM   1619  C   ILE A 218      50.981  30.094  -2.017  1.00  0.80           C
ATOM   1620  O   ILE A 218      50.567  30.020  -0.862  1.00  0.80           O
ATOM   1621  CB  ILE A 218      50.823  28.274  -3.800  1.00  0.80           C
ATOM   1622  CG1 ILE A 218      49.945  27.645  -4.898  1.00  0.80           C
ATOM   1623  CG2 ILE A 218      51.220  27.225  -2.747  1.00  0.80           C
ATOM   1624  CD1 ILE A 218      48.559  27.163  -4.436  1.00  0.80           C
ATOM   1625  N   ILE A 219      52.103  30.724  -2.366  1.00  0.85           N
ATOM   1626  CA  ILE A 219      52.954  31.410  -1.366  1.00  0.85           C
ATOM   1627  C   ILE A 219      52.114  32.453  -0.605  1.00  0.85           C
ATOM   1628  O   ILE A 219      52.135  32.461   0.625  1.00  0.85           O
ATOM   1629  CB  ILE A 219      54.195  32.065  -2.010  1.00  0.85           C
ATOM   1630  CG1 ILE A 219      55.094  30.987  -2.641  1.00  0.85           C
ATOM   1631  CG2 ILE A 219      54.978  32.920  -0.991  1.00  0.85           C
ATOM   1632  CD1 ILE A 219      56.302  31.533  -3.416  1.00  0.85           C
ATOM   1633  N   GLY A 220      51.294  33.201  -1.342  1.00  0.92           N
ATOM   1634  CA  GLY A 220      50.449  34.267  -0.765  1.00  0.92           C
ATOM   1635  C   GLY A 220      49.415  33.726   0.232  1.00  0.92           C
ATOM   1636  O   GLY A 220      49.414  34.111   1.400  1.00  0.92           O
ATOM   1637  N   LYS A 221      48.744  32.653  -0.182  1.00  0.84           N
ATOM   1638  CA  LYS A 221      47.689  32.002   0.617  1.00  0.84           C
ATOM   1639  C   LYS A 221      48.229  31.403   1.925  1.00  0.84           C
ATOM   1640  O   LYS A 221      47.729  31.704   3.009  1.00  0.84           O
ATOM   1641  CB  LYS A 221      47.015  30.925  -0.242  1.00  0.84           C
ATOM   1642  CG  LYS A 221      45.962  30.126   0.526  1.00  0.84           C
ATOM   1643  CD  LYS A 221      45.335  29.093  -0.394  1.00  0.84           C
ATOM   1644  CE  LYS A 221      44.396  28.192   0.396  1.00  0.84           C
ATOM   1645  NZ  LYS A 221      43.754  27.260  -0.532  1.00  0.84           N1+
ATOM   1646  N   TYR A 222      49.292  30.613   1.797  1.00  0.94           N
ATOM   1647  CA  TYR A 222      49.854  29.877   2.942  1.00  0.94           C
ATOM   1648  C   TYR A 222      50.710  30.729   3.882  1.00  0.94           C
ATOM   1649  O   TYR A 222      50.658  30.529   5.092  1.00  0.94           O
ATOM   1650  CB  TYR A 222      50.574  28.609   2.483  1.00  0.94           C
ATOM   1651  CG  TYR A 222      49.544  27.594   1.979  1.00  0.94           C
ATOM   1652  CD1 TYR A 222      48.795  26.861   2.890  1.00  0.94           C
ATOM   1653  CD2 TYR A 222      49.307  27.445   0.618  1.00  0.94           C
ATOM   1654  CE1 TYR A 222      47.811  25.995   2.439  1.00  0.94           C
ATOM   1655  CE2 TYR A 222      48.323  26.580   0.163  1.00  0.94           C
ATOM   1656  CZ  TYR A 222      47.572  25.855   1.079  1.00  0.94           C
ATOM   1657  OH  TYR A 222      46.622  24.991   0.641  1.00  0.94           O
ATOM   1658  N   SER A 223      51.346  31.767   3.333  1.00  0.96           N
ATOM   1659  CA  SER A 223      52.086  32.748   4.154  1.00  0.96           C
ATOM   1660  C   SER A 223      51.139  33.553   5.048  1.00  0.96           C
ATOM   1661  O   SER A 223      51.331  33.600   6.261  1.00  0.96           O
ATOM   1662  CB  SER A 223      52.908  33.725   3.312  1.00  0.96           C
ATOM   1663  OG  SER A 223      53.982  33.025   2.678  1.00  0.96           O
ATOM   1664  N   VAL A 224      50.015  33.978   4.464  1.00  0.94           N
ATOM   1665  CA  VAL A 224      48.974  34.724   5.202  1.00  0.94           C
ATOM   1666  C   VAL A 224      48.292  33.820   6.244  1.00  0.94           C
ATOM   1667  O   VAL A 224      48.145  34.219   7.396  1.00  0.94           O
ATOM   1668  CB  VAL A 224      47.948  35.354   4.242  1.00  0.94           C
ATOM   1669  CG1 VAL A 224      46.786  36.016   4.993  1.00  0.94           C
ATOM   1670  CG2 VAL A 224      48.613  36.433   3.383  1.00  0.94           C
ATOM   1671  N   ALA A 225      47.968  32.594   5.841  1.00  0.92           N
ATOM   1672  CA  ALA A 225      47.301  31.621   6.727  1.00  0.92           C
ATOM   1673  C   ALA A 225      48.170  31.270   7.946  1.00  0.92           C
ATOM   1674  O   ALA A 225      47.683  31.276   9.077  1.00  0.92           O
ATOM   1675  CB  ALA A 225      46.953  30.356   5.940  1.00  0.92           C
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ATOM   1676  N   TRP A 226      49.479  31.174   7.708  1.00  0.93           N
ATOM   1677  CA  TRP A 226      50.462  30.863   8.761  1.00  0.93           C
ATOM   1678  C   TRP A 226      50.644  32.041   9.729  1.00  0.93           C
ATOM   1679  O   TRP A 226      50.505  31.883  10.942  1.00  0.93           O
ATOM   1680  CB  TRP A 226      51.797  30.479   8.120  1.00  0.93           C
ATOM   1681  CG  TRP A 226      52.718  29.828   9.155  1.00  0.93           C
ATOM   1682  CD1 TRP A 226      53.694  30.429   9.841  1.00  0.93           C
ATOM   1683  CD2 TRP A 226      52.698  28.518   9.540  1.00  0.93           C
ATOM   1684  CE2 TRP A 226      53.696  28.337  10.484  1.00  0.93           C
ATOM   1685  CE3 TRP A 226      51.911  27.411   9.155  1.00  0.93           C
ATOM   1686  NE1 TRP A 226      54.285  29.551  10.637  1.00  0.93           N
ATOM   1687  CZ2 TRP A 226      53.928  27.118  11.044  1.00  0.93           C
ATOM   1688  CZ3 TRP A 226      52.153  26.177   9.710  1.00  0.93           C
ATOM   1689  CH2 TRP A 226      53.155  26.007  10.656  1.00  0.93           C
ATOM   1690  N   LEU A 227      50.773  33.240   9.161  1.00  0.93           N
ATOM   1691  CA  LEU A 227      50.858  34.485   9.950  1.00  0.93           C
ATOM   1692  C   LEU A 227      49.593  34.756  10.768  1.00  0.93           C
ATOM   1693  O   LEU A 227      49.668  35.017  11.965  1.00  0.93           O
ATOM   1694  CB  LEU A 227      51.138  35.688   9.045  1.00  0.93           C
ATOM   1695  CG  LEU A 227      52.518  35.614   8.387  1.00  0.93           C
ATOM   1696  CD1 LEU A 227      52.666  36.767   7.404  1.00  0.93           C
ATOM   1697  CD2 LEU A 227      53.651  35.675   9.413  1.00  0.93           C
ATOM   1698  N   LYS A 228      48.440  34.491  10.169  1.00  0.86           N
ATOM   1699  CA  LYS A 228      47.139  34.632  10.847  1.00  0.86           C
ATOM   1700  C   LYS A 228      46.996  33.682  12.042  1.00  0.86           C
ATOM   1701  O   LYS A 228      46.728  34.120  13.159  1.00  0.86           O
ATOM   1702  CB  LYS A 228      46.010  34.363   9.858  1.00  0.86           C
ATOM   1703  CG  LYS A 228      45.725  35.546   8.932  1.00  0.86           C
ATOM   1704  CD  LYS A 228      45.016  36.672   9.684  1.00  0.86           C
ATOM   1705  CE  LYS A 228      44.555  37.737   8.695  1.00  0.86           C
ATOM   1706  NZ  LYS A 228      43.784  38.783   9.378  1.00  0.86           N1+
ATOM   1707  N   ARG A 229      47.353  32.417  11.811  1.00  0.81           N
ATOM   1708  CA  ARG A 229      47.255  31.377  12.846  1.00  0.81           C
ATOM   1709  C   ARG A 229      48.184  31.633  14.041  1.00  0.81           C
ATOM   1710  O   ARG A 229      47.734  31.529  15.178  1.00  0.81           O
ATOM   1711  CB  ARG A 229      47.517  29.991  12.239  1.00  0.81           C
ATOM   1712  CG  ARG A 229      47.544  28.850  13.268  1.00  0.81           C
ATOM   1713  CD  ARG A 229      46.261  28.780  14.105  1.00  0.81           C
ATOM   1714  NE  ARG A 229      46.429  27.807  15.199  1.00  0.81           N
ATOM   1715  CZ  ARG A 229      47.028  28.009  16.378  1.00  0.81           C
ATOM   1716  NH1 ARG A 229      47.553  29.176  16.723  1.00  0.81           N1+
ATOM   1717  NH2 ARG A 229      47.125  27.012  17.244  1.00  0.81           N
ATOM   1718  N   PHE A 230      49.374  32.147  13.770  1.00  0.86           N
ATOM   1719  CA  PHE A 230      50.425  32.210  14.801  1.00  0.86           C
ATOM   1720  C   PHE A 230      50.733  33.609  15.341  1.00  0.86           C
ATOM   1721  O   PHE A 230      50.901  33.778  16.540  1.00  0.86           O
ATOM   1722  CB  PHE A 230      51.688  31.510  14.299  1.00  0.86           C
ATOM   1723  CG  PHE A 230      51.440  30.005  14.166  1.00  0.86           C
ATOM   1724  CD1 PHE A 230      51.199  29.244  15.305  1.00  0.86           C
ATOM   1725  CD2 PHE A 230      51.420  29.406  12.913  1.00  0.86           C
ATOM   1726  CE1 PHE A 230      50.934  27.887  15.193  1.00  0.86           C
ATOM   1727  CE2 PHE A 230      51.148  28.048  12.803  1.00  0.86           C
ATOM   1728  CZ  PHE A 230      50.906  27.289  13.940  1.00  0.86           C
ATOM   1729  N   VAL A 231      50.654  34.610  14.469  1.00  0.87           N
ATOM   1730  CA  VAL A 231      50.829  36.020  14.879  1.00  0.87           C
ATOM   1731  C   VAL A 231      49.547  36.547  15.546  1.00  0.87           C
ATOM   1732  O   VAL A 231      49.612  37.286  16.522  1.00  0.87           O
ATOM   1733  CB  VAL A 231      51.252  36.905  13.690  1.00  0.87           C
ATOM   1734  CG1 VAL A 231      51.469  38.364  14.102  1.00  0.87           C
ATOM   1735  CG2 VAL A 231      52.550  36.396  13.063  1.00  0.87           C
ATOM   1736  N   ASP A 232      48.400  36.110  15.033  1.00  0.82           N
ATOM   1737  CA  ASP A 232      47.098  36.578  15.547  1.00  0.82           C
ATOM   1738  C   ASP A 232      46.370  35.533  16.400  1.00  0.82           C
ATOM   1739  O   ASP A 232      45.257  35.778  16.859  1.00  0.82           O
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ATOM   1740  CB  ASP A 232      46.194  37.026  14.390  1.00  0.82           C
ATOM   1741  CG  ASP A 232      46.713  38.225  13.585  1.00  0.82           C
ATOM   1742  OD1 ASP A 232      47.774  38.785  13.941  1.00  0.82           O
ATOM   1743  OD2 ASP A 232      46.062  38.512  12.560  1.00  0.82           O1-
ATOM   1744  N   ASN A 233      46.950  34.327  16.506  1.00  0.80           N
ATOM   1745  CA  ASN A 233      46.311  33.173  17.179  1.00  0.80           C
ATOM   1746  C   ASN A 233      44.936  32.870  16.557  1.00  0.80           C
ATOM   1747  O   ASN A 233      43.989  32.408  17.204  1.00  0.80           O
ATOM   1748  CB  ASN A 233      46.166  33.436  18.687  1.00  0.80           C
ATOM   1749  CG  ASN A 233      47.481  33.774  19.387  1.00  0.80           C
ATOM   1750  ND2 ASN A 233      47.371  34.518  20.465  1.00  0.80           N
ATOM   1751  OD1 ASN A 233      48.569  33.373  19.003  1.00  0.80           O
ATOM   1752  N   ASP A 234      44.810  33.217  15.278  1.00  0.79           N
ATOM   1753  CA  ASP A 234      43.526  33.210  14.582  1.00  0.79           C
ATOM   1754  C   ASP A 234      43.245  31.801  14.044  1.00  0.79           C
ATOM   1755  O   ASP A 234      43.586  31.454  12.919  1.00  0.79           O
ATOM   1756  CB  ASP A 234      43.547  34.257  13.465  1.00  0.79           C
ATOM   1757  CG  ASP A 234      42.152  34.533  12.911  1.00  0.79           C
ATOM   1758  OD1 ASP A 234      41.260  33.666  13.083  1.00  0.79           O
ATOM   1759  OD2 ASP A 234      41.991  35.627  12.346  1.00  0.79           O1-
ATOM   1760  N   THR A 235      42.466  31.076  14.842  1.00  0.81           N
ATOM   1761  CA  THR A 235      42.075  29.687  14.521  1.00  0.81           C
ATOM   1762  C   THR A 235      41.074  29.552  13.366  1.00  0.81           C
ATOM   1763  O   THR A 235      40.853  28.452  12.868  1.00  0.81           O
ATOM   1764  CB  THR A 235      41.553  28.953  15.759  1.00  0.81           C
ATOM   1765  CG2 THR A 235      42.668  28.732  16.786  1.00  0.81           C
ATOM   1766  OG1 THR A 235      40.464  29.692  16.318  1.00  0.81           O
ATOM   1767  N   ARG A 236      40.564  30.688  12.872  1.00  0.75           N
ATOM   1768  CA  ARG A 236      39.784  30.730  11.615  1.00  0.75           C
ATOM   1769  C   ARG A 236      40.605  30.290  10.392  1.00  0.75           C
ATOM   1770  O   ARG A 236      40.043  29.897   9.370  1.00  0.75           O
ATOM   1771  CB  ARG A 236      39.241  32.130  11.327  1.00  0.75           C
ATOM   1772  CG  ARG A 236      38.213  32.592  12.363  1.00  0.75           C
ATOM   1773  CD  ARG A 236      37.671  33.974  12.000  1.00  0.75           C
ATOM   1774  NE  ARG A 236      38.749  34.981  12.034  1.00  0.75           N
ATOM   1775  CZ  ARG A 236      38.662  36.234  11.589  1.00  0.75           C
ATOM   1776  NH1 ARG A 236      37.558  36.698  11.026  1.00  0.75           N1+
ATOM   1777  NH2 ARG A 236      39.690  37.058  11.710  1.00  0.75           N
ATOM   1778  N   TYR A 237      41.927  30.286  10.548  1.00  0.84           N
ATOM   1779  CA  TYR A 237      42.878  29.954   9.475  1.00  0.84           C
ATOM   1780  C   TYR A 237      43.493  28.552   9.572  1.00  0.84           C
ATOM   1781  O   TYR A 237      44.057  28.061   8.595  1.00  0.84           O
ATOM   1782  CB  TYR A 237      43.981  31.011   9.422  1.00  0.84           C
ATOM   1783  CG  TYR A 237      43.425  32.315   8.850  1.00  0.84           C
ATOM   1784  CD1 TYR A 237      42.775  33.221   9.679  1.00  0.84           C
ATOM   1785  CD2 TYR A 237      43.581  32.588   7.499  1.00  0.84           C
ATOM   1786  CE1 TYR A 237      42.275  34.406   9.156  1.00  0.84           C
ATOM   1787  CE2 TYR A 237      43.087  33.774   6.974  1.00  0.84           C
ATOM   1788  CZ  TYR A 237      42.434  34.678   7.804  1.00  0.84           C
ATOM   1789  OH  TYR A 237      41.884  35.800   7.278  1.00  0.84           O
ATOM   1790  N   THR A 238      43.214  27.854  10.680  1.00  0.85           N
ATOM   1791  CA  THR A 238      43.638  26.450  10.875  1.00  0.85           C
ATOM   1792  C   THR A 238      43.120  25.555   9.737  1.00  0.85           C
ATOM   1793  O   THR A 238      43.858  24.711   9.235  1.00  0.85           O
ATOM   1794  CB  THR A 238      43.123  25.903  12.217  1.00  0.85           C
ATOM   1795  CG2 THR A 238      43.544  24.452  12.487  1.00  0.85           C
ATOM   1796  OG1 THR A 238      43.596  26.745  13.270  1.00  0.85           O
ATOM   1797  N   GLN A 239      41.915  25.865   9.258  1.00  0.80           N
ATOM   1798  CA  GLN A 239      41.251  25.104   8.180  1.00  0.80           C
ATOM   1799  C   GLN A 239      42.084  24.987   6.887  1.00  0.80           C
ATOM   1800  O   GLN A 239      42.015  23.972   6.196  1.00  0.80           O
ATOM   1801  CB  GLN A 239      39.876  25.708   7.873  1.00  0.80           C
ATOM   1802  CG  GLN A 239      39.953  27.146   7.351  1.00  0.80           C
ATOM   1803  CD  GLN A 239      38.581  27.679   6.954  1.00  0.80           C
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ATOM   1804  NE2 GLN A 239      38.187  28.750   7.599  1.00  0.80           N
ATOM   1805  OE1 GLN A 239      37.886  27.161   6.091  1.00  0.80           O
ATOM   1806  N   PHE A 240      42.897  26.003   6.614  1.00  0.88           N
ATOM   1807  CA  PHE A 240      43.744  26.046   5.404  1.00  0.88           C
ATOM   1808  C   PHE A 240      45.057  25.276   5.584  1.00  0.88           C
ATOM   1809  O   PHE A 240      45.579  24.685   4.642  1.00  0.88           O
ATOM   1810  CB  PHE A 240      44.051  27.493   5.008  1.00  0.88           C
ATOM   1811  CG  PHE A 240      42.771  28.316   4.856  1.00  0.88           C
ATOM   1812  CD1 PHE A 240      41.920  28.109   3.777  1.00  0.88           C
ATOM   1813  CD2 PHE A 240      42.449  29.248   5.832  1.00  0.88           C
ATOM   1814  CE1 PHE A 240      40.740  28.838   3.677  1.00  0.88           C
ATOM   1815  CE2 PHE A 240      41.273  29.975   5.729  1.00  0.88           C
ATOM   1816  CZ  PHE A 240      40.417  29.773   4.653  1.00  0.88           C
ATOM   1817  N   LEU A 241      45.531  25.238   6.826  1.00  0.90           N
ATOM   1818  CA  LEU A 241      46.810  24.600   7.184  1.00  0.90           C
ATOM   1819  C   LEU A 241      46.685  23.102   7.487  1.00  0.90           C
ATOM   1820  O   LEU A 241      47.633  22.339   7.308  1.00  0.90           O
ATOM   1821  CB  LEU A 241      47.406  25.325   8.397  1.00  0.90           C
ATOM   1822  CG  LEU A 241      47.624  26.825   8.153  1.00  0.90           C
ATOM   1823  CD1 LEU A 241      48.134  27.484   9.432  1.00  0.90           C
ATOM   1824  CD2 LEU A 241      48.601  27.082   7.000  1.00  0.90           C
ATOM   1825  N   CYS A 242      45.518  22.722   8.007  1.00  0.93           N
ATOM   1826  CA  CYS A 242      45.264  21.374   8.532  1.00  0.93           C
ATOM   1827  C   CYS A 242      43.915  20.836   8.025  1.00  0.93           C
ATOM   1828  O   CYS A 242      42.890  21.469   8.273  1.00  0.93           O
ATOM   1829  CB  CYS A 242      45.281  21.425  10.062  1.00  0.93           C
ATOM   1830  SG  CYS A 242      46.837  22.102  10.752  1.00  0.93           S
ATOM   1831  N   PRO A 243      43.943  19.699   7.312  1.00  0.91           N
ATOM   1832  CA  PRO A 243      45.141  18.885   6.993  1.00  0.91           C
ATOM   1833  C   PRO A 243      46.134  19.538   6.019  1.00  0.91           C
ATOM   1834  O   PRO A 243      47.269  19.075   5.874  1.00  0.91           O
ATOM   1835  CB  PRO A 243      44.568  17.588   6.423  1.00  0.91           C
ATOM   1836  CG  PRO A 243      43.279  18.040   5.739  1.00  0.91           C
ATOM   1837  CD  PRO A 243      42.740  19.115   6.684  1.00  0.91           C
ATOM   1838  N   GLY A 244      45.665  20.591   5.343  1.00  0.92           N
ATOM   1839  CA  GLY A 244      46.451  21.315   4.337  1.00  0.92           C
ATOM   1840  C   GLY A 244      46.461  20.597   2.974  1.00  0.92           C
ATOM   1841  O   GLY A 244      45.825  19.564   2.798  1.00  0.92           O
ATOM   1842  N   PRO A 245      47.260  21.139   2.023  1.00  0.84           N
ATOM   1843  CA  PRO A 245      47.326  20.643   0.640  1.00  0.84           C
ATOM   1844  C   PRO A 245      48.198  19.384   0.461  1.00  0.84           C
ATOM   1845  O   PRO A 245      48.933  19.245  -0.508  1.00  0.84           O
ATOM   1846  CB  PRO A 245      47.900  21.845  -0.117  1.00  0.84           C
ATOM   1847  CG  PRO A 245      48.895  22.432   0.876  1.00  0.84           C
ATOM   1848  CD  PRO A 245      48.143  22.305   2.198  1.00  0.84           C
ATOM   1849  N   ARG A 246      48.073  18.448   1.405  1.00  0.74           N
ATOM   1850  CA  ARG A 246      48.830  17.180   1.354  1.00  0.74           C
ATOM   1851  C   ARG A 246      48.275  16.171   0.331  1.00  0.74           C
ATOM   1852  O   ARG A 246      49.001  15.295  -0.135  1.00  0.74           O
ATOM   1853  CB  ARG A 246      48.897  16.547   2.747  1.00  0.74           C
ATOM   1854  CG  ARG A 246      47.520  16.135   3.270  1.00  0.74           C
ATOM   1855  CD  ARG A 246      47.676  15.433   4.609  1.00  0.74           C
ATOM   1856  NE  ARG A 246      46.360  14.981   5.088  1.00  0.74           N
ATOM   1857  CZ  ARG A 246      46.147  14.361   6.248  1.00  0.74           C
ATOM   1858  NH1 ARG A 246      47.151  14.099   7.075  1.00  0.74           N1+
ATOM   1859  NH2 ARG A 246      44.919  14.012   6.605  1.00  0.74           N
ATOM   1860  N   ASP A 247      46.999  16.327  -0.014  1.00  0.74           N
ATOM   1861  CA  ASP A 247      46.266  15.336  -0.832  1.00  0.74           C
ATOM   1862  C   ASP A 247      45.963  15.768  -2.279  1.00  0.74           C
ATOM   1863  O   ASP A 247      44.934  15.396  -2.846  1.00  0.74           O
ATOM   1864  CB  ASP A 247      44.965  14.946  -0.115  1.00  0.74           C
ATOM   1865  CG  ASP A 247      43.938  16.087  -0.010  1.00  0.74           C
ATOM   1866  OD1 ASP A 247      44.042  17.075  -0.776  1.00  0.74           O
ATOM   1867  OD2 ASP A 247      43.110  15.992   0.916  1.00  0.74           O1-
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ATOM   1868  N   GLY A 248      46.730  16.742  -2.758  1.00  0.63           N
ATOM   1869  CA  GLY A 248      46.716  17.019  -4.199  1.00  0.63           C
ATOM   1870  C   GLY A 248      48.173  17.034  -4.640  1.00  0.63           C
ATOM   1871  O   GLY A 248      48.747  15.970  -4.815  1.00  0.63           O
ATOM   1872  N   LEU A 249      48.669  18.182  -5.094  1.00  0.53           N
ATOM   1873  CA  LEU A 249      47.938  19.203  -5.870  1.00  0.53           C
ATOM   1874  C   LEU A 249      48.828  19.553  -7.068  1.00  0.53           C
ATOM   1875  O   LEU A 249      49.438  20.613  -7.138  1.00  0.53           O
ATOM   1876  CB  LEU A 249      47.604  20.465  -5.046  1.00  0.53           C
ATOM   1877  CG  LEU A 249      46.444  20.300  -4.056  1.00  0.53           C
ATOM   1878  CD1 LEU A 249      46.276  21.578  -3.242  1.00  0.53           C
ATOM   1879  CD2 LEU A 249      45.116  19.998  -4.762  1.00  0.53           C
ATOM   1880  N   PHE A 250      49.013  18.546  -7.938  1.00  0.46           N
ATOM   1881  CA  PHE A 250      49.976  18.650  -9.048  1.00  0.46           C
ATOM   1882  C   PHE A 250      49.689  19.852  -9.948  1.00  0.46           C
ATOM   1883  O   PHE A 250      48.539  20.188 -10.218  1.00  0.46           O
ATOM   1884  CB  PHE A 250      50.020  17.365  -9.878  1.00  0.46           C
ATOM   1885  CG  PHE A 250      50.621  16.219  -9.064  1.00  0.46           C
ATOM   1886  CD1 PHE A 250      51.960  16.258  -8.692  1.00  0.46           C
ATOM   1887  CD2 PHE A 250      49.822  15.147  -8.690  1.00  0.46           C
ATOM   1888  CE1 PHE A 250      52.500  15.226  -7.936  1.00  0.46           C
ATOM   1889  CE2 PHE A 250      50.364  14.111  -7.940  1.00  0.46           C
ATOM   1890  CZ  PHE A 250      51.702  14.151  -7.562  1.00  0.46           C
ATOM   1891  N   GLY A 251      50.777  20.587 -10.185  1.00  0.61           N
ATOM   1892  CA  GLY A 251      50.730  21.906 -10.842  1.00  0.61           C
ATOM   1893  C   GLY A 251      50.938  23.035  -9.822  1.00  0.61           C
ATOM   1894  O   GLY A 251      51.322  24.144 -10.183  1.00  0.61           O
ATOM   1895  N   GLU A 252      50.665  22.733  -8.553  1.00  0.61           N
ATOM   1896  CA  GLU A 252      50.733  23.718  -7.458  1.00  0.61           C
ATOM   1897  C   GLU A 252      51.646  23.279  -6.303  1.00  0.61           C
ATOM   1898  O   GLU A 252      52.671  23.906  -6.044  1.00  0.61           O
ATOM   1899  CB  GLU A 252      49.328  24.020  -6.928  1.00  0.61           C
ATOM   1900  CG  GLU A 252      48.376  24.531  -8.018  1.00  0.61           C
ATOM   1901  CD  GLU A 252      47.007  24.952  -7.477  1.00  0.61           C
ATOM   1902  OE1 GLU A 252      46.647  24.527  -6.353  1.00  0.61           O
ATOM   1903  OE2 GLU A 252      46.361  25.753  -8.181  1.00  0.61           O1-
ATOM   1904  N   VAL A 253      51.303  22.154  -5.673  1.00  0.70           N
ATOM   1905  CA  VAL A 253      52.010  21.662  -4.476  1.00  0.70           C
ATOM   1906  C   VAL A 253      52.496  20.223  -4.713  1.00  0.70           C
ATOM   1907  O   VAL A 253      51.704  19.316  -4.940  1.00  0.70           O
ATOM   1908  CB  VAL A 253      51.096  21.751  -3.232  1.00  0.70           C
ATOM   1909  CG1 VAL A 253      51.789  21.244  -1.962  1.00  0.70           C
ATOM   1910  CG2 VAL A 253      50.626  23.187  -2.977  1.00  0.70           C
ATOM   1911  N   GLU A 254      53.817  20.078  -4.621  1.00  0.63           N
ATOM   1912  CA  GLU A 254      54.491  18.773  -4.726  1.00  0.63           C
ATOM   1913  C   GLU A 254      54.274  17.914  -3.463  1.00  0.63           C
ATOM   1914  O   GLU A 254      54.113  16.705  -3.583  1.00  0.63           O
ATOM   1915  CB  GLU A 254      55.971  19.013  -5.067  1.00  0.63           C
ATOM   1916  CG  GLU A 254      56.804  17.735  -5.272  1.00  0.63           C
ATOM   1917  CD  GLU A 254      57.177  17.030  -3.961  1.00  0.63           C
ATOM   1918  OE1 GLU A 254      57.353  17.771  -2.968  1.00  0.63           O
ATOM   1919  OE2 GLU A 254      57.349  15.795  -3.991  1.00  0.63           O1-
ATOM   1920  N   GLU A 255      54.392  18.528  -2.284  1.00  0.72           N
ATOM   1921  CA  GLU A 255      54.138  17.852  -0.992  1.00  0.72           C
ATOM   1922  C   GLU A 255      53.893  18.890   0.112  1.00  0.72           C
ATOM   1923  O   GLU A 255      54.377  20.014   0.034  1.00  0.72           O
ATOM   1924  CB  GLU A 255      55.297  16.927  -0.583  1.00  0.72           C
ATOM   1925  CG  GLU A 255      56.558  17.676  -0.135  1.00  0.72           C
ATOM   1926  CD  GLU A 255      57.691  16.715   0.198  1.00  0.72           C
ATOM   1927  OE1 GLU A 255      57.776  16.358   1.391  1.00  0.72           O
ATOM   1928  OE2 GLU A 255      58.487  16.433  -0.726  1.00  0.72           O1-
ATOM   1929  N   TYR A 256      53.198  18.409   1.144  1.00  0.81           N
ATOM   1930  CA  TYR A 256      52.924  19.194   2.350  1.00  0.81           C
ATOM   1931  C   TYR A 256      53.014  18.293   3.589  1.00  0.81           C
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ATOM   1932  O   TYR A 256      52.375  17.253   3.662  1.00  0.81           O
ATOM   1933  CB  TYR A 256      51.534  19.822   2.232  1.00  0.81           C
ATOM   1934  CG  TYR A 256      51.206  20.698   3.440  1.00  0.81           C
ATOM   1935  CD1 TYR A 256      51.735  21.979   3.519  1.00  0.81           C
ATOM   1936  CD2 TYR A 256      50.337  20.237   4.419  1.00  0.81           C
ATOM   1937  CE1 TYR A 256      51.391  22.806   4.579  1.00  0.81           C
ATOM   1938  CE2 TYR A 256      49.986  21.065   5.476  1.00  0.81           C
ATOM   1939  CZ  TYR A 256      50.515  22.348   5.554  1.00  0.81           C
ATOM   1940  OH  TYR A 256      50.204  23.148   6.604  1.00  0.81           O
ATOM   1941  N   ARG A 257      53.924  18.688   4.471  1.00  0.80           N
ATOM   1942  CA  ARG A 257      54.126  18.022   5.771  1.00  0.80           C
ATOM   1943  C   ARG A 257      53.840  19.047   6.871  1.00  0.80           C
ATOM   1944  O   ARG A 257      53.988  20.240   6.641  1.00  0.80           O
ATOM   1945  CB  ARG A 257      55.573  17.553   5.902  1.00  0.80           C
ATOM   1946  CG  ARG A 257      55.979  16.611   4.763  1.00  0.80           C
ATOM   1947  CD  ARG A 257      57.327  15.964   5.057  1.00  0.80           C
ATOM   1948  NE  ARG A 257      57.176  15.085   6.231  1.00  0.80           N
ATOM   1949  CZ  ARG A 257      58.152  14.678   7.038  1.00  0.80           C
ATOM   1950  NH1 ARG A 257      59.407  15.053   6.842  1.00  0.80           N1+
ATOM   1951  NH2 ARG A 257      57.869  13.896   8.071  1.00  0.80           N
ATOM   1952  N   SER A 258      53.446  18.554   8.045  1.00  0.89           N
ATOM   1953  CA  SER A 258      53.095  19.441   9.170  1.00  0.89           C
ATOM   1954  C   SER A 258      53.028  18.651  10.483  1.00  0.89           C
ATOM   1955  O   SER A 258      53.000  17.429  10.502  1.00  0.89           O
ATOM   1956  CB  SER A 258      51.737  20.117   8.933  1.00  0.89           C
ATOM   1957  OG  SER A 258      50.677  19.159   9.045  1.00  0.89           O
ATOM   1958  N   THR A 259      52.953  19.439  11.554  1.00  0.84           N
ATOM   1959  CA  THR A 259      52.664  18.933  12.907  1.00  0.84           C
ATOM   1960  C   THR A 259      51.278  19.414  13.363  1.00  0.84           C
ATOM   1961  O   THR A 259      51.023  19.710  14.533  1.00  0.84           O
ATOM   1962  CB  THR A 259      53.750  19.379  13.895  1.00  0.84           C
ATOM   1963  CG2 THR A 259      55.096  18.723  13.576  1.00  0.84           C
ATOM   1964  OG1 THR A 259      53.861  20.805  13.897  1.00  0.84           O
ATOM   1965  N   CYS A 260      50.370  19.499  12.384  1.00  0.89           N
ATOM   1966  CA  CYS A 260      48.938  19.743  12.622  1.00  0.89           C
ATOM   1967  C   CYS A 260      48.431  18.816  13.752  1.00  0.89           C
ATOM   1968  O   CYS A 260      48.920  17.704  13.885  1.00  0.89           O
ATOM   1969  CB  CYS A 260      48.160  19.452  11.336  1.00  0.89           C
ATOM   1970  SG  CYS A 260      48.246  20.788  10.090  1.00  0.89           S
ATOM   1971  N   PRO A 261      47.418  19.278  14.510  1.00  0.89           N
ATOM   1972  CA  PRO A 261      46.672  20.522  14.277  1.00  0.89           C
ATOM   1973  C   PRO A 261      47.176  21.745  15.062  1.00  0.89           C
ATOM   1974  O   PRO A 261      46.459  22.735  15.148  1.00  0.89           O
ATOM   1975  CB  PRO A 261      45.260  20.140  14.723  1.00  0.89           C
ATOM   1976  CG  PRO A 261      45.531  19.269  15.950  1.00  0.89           C
ATOM   1977  CD  PRO A 261      46.766  18.458  15.548  1.00  0.89           C
ATOM   1978  N   PHE A 262      48.390  21.664  15.629  1.00  0.80           N
ATOM   1979  CA  PHE A 262      48.990  22.778  16.409  1.00  0.80           C
ATOM   1980  C   PHE A 262      48.208  23.043  17.717  1.00  0.80           C
ATOM   1981  O   PHE A 262      47.992  24.222  18.079  1.00  0.80           O
ATOM   1982  CB  PHE A 262      49.087  24.057  15.548  1.00  0.80           C
ATOM   1983  CG  PHE A 262      49.643  23.801  14.145  1.00  0.80           C
ATOM   1984  CD1 PHE A 262      50.821  23.080  14.003  1.00  0.80           C
ATOM   1985  CD2 PHE A 262      48.974  24.283  13.027  1.00  0.80           C
ATOM   1986  CE1 PHE A 262      51.347  22.856  12.741  1.00  0.80           C
ATOM   1987  CE2 PHE A 262      49.507  24.061  11.760  1.00  0.80           C
ATOM   1988  CZ  PHE A 262      50.694  23.351  11.621  1.00  0.80           C
ATOM   1989  OXT PHE A 262      47.764  22.033  18.310  1.00  0.80           O1-
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